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ARTICLE I.—*Sex and Contagion.* By JAMES NEVINS HYDE, M.D., Chicago.

Pathological life, according to a recent writer,* is "consequent upon increased, diminished, or otherwise altered velocity† of molecular material, changing the arrangement of such material, interfering with the function which depends upon such arrangement, and, generally, inducing a greater or less modification of external appearance."

Without pausing to accept or reject the theory which such a definition involves, it may be applied in such a manner as to do no violence to generally received opinions.

There is an average condition of health, to the one side and the other of which, the pendulum of life swings from minute to min-

* McElroy. Cincinnati Lancet and Observer, August, 1874.

† The word "velocity" is, of course, intended to express, in its mechanical sense, the relation of motion to time. The rate of motion may be inappreciable, or appreciable only differential observations.

ute and from hour to hour, within certain prescribed physiological limits. In surpassing these limits, either to the right or left, the pendulum reaches an intermediate space, where the regions of health and disease are illy defined. A still wider swing encroaches upon the borders of that region which is allotted to pathology.

It will suffice for present purposes, if it be conceded that the greater deviation from this physiological average, is that which most nearly coincides with the pathological extreme. It should then follow that the study of the widest of these deviations must throw a flood of light upon pathogenesis.

The slightest of these variations are the transient phenomena of animal life, well worth the attention of the philosopher and the physician—the widest, offer them the surest basis upon which to found an explanation of malignant disease.

What are the widest of these deviations?

In the vegetable world, it is clear that plants sprout, flourish and die, for one special purpose — the production of a seed through which they may restore their kind. In a materialistic point of view merely, animals (including man) live to the same end—the perpetuation of their species. From infancy to puberty, the human male animal is sustained in order that he may finally secrete an organic cell, which shall possess the marvellous power of fecundating another and similar cell. This latter is provided by the female, who has survived for that main purpose nearly a quarter of a century. At the time of fruitful congress these cells are liberated,* endowed with a certain mode of motion, and there results a new being. Many individuals of a lower species, perish immediately after this supremest act of their short lives,† the liberated cells being extruded from their bodies, and placed in such media, or wrapped in such envelopes, that the new beings are therein fed and protected until sufficiently mature to feed and protect themselves. The lives of the human parents are, however, prolonged beyond this period, not only in order that they may be enabled to feed and protect the most helpless of offspring, but

* Consult Flint's Physiology of Man, Vol. 5, pp. 293–6, for evidence as to the probability that, apart from the menstrual molimen, the graafian follicle is ruptured during, or in consequence of, sexual intercourse.

† *E. G.*, the bombycidæ.

also that repeated acts of procreation may evoke other new organisms to life.

Now, a general survey of this cycle of events, might justify the conclusion that the maximum of that sum of velocities which we call life, would occur at the precise moment when the new organism was to be impressed with momentum. This, therefore, should be the date when those changed velocities originate, which have been supposed to be pathological.

However it may be with the parents, it is true that at this time the new life is endowed with all its hereditary tendencies to disease and death.

So far as regards the parents, however, the process of generation is not yet perfected. The female is obliged to furnish food and protection, first for the ovum and then for the fœtus, in a receptacle provided for that purpose, during a comparatively fixed interval, till the new being is capable of sustaining a separate existence. By means of a placenta and umbilical cord, the fœtus is attached to the mother, somewhat as a cherry is fastened to a fruit-bearing limb, and the maternal and fœtal bioplasts are thus commingled in continuous vascular channels.

The physiological velocities of the mother are thus again communicated to the child.

But there is a limit to this phase of life. At a determined instant, muscular energy intervenes, and plucks the mature fruit from the womb, in such a manner as if the stem of the cherry were torn from the limb, and the cherry itself torn from its stem. Here a physiological amputation is effected, and two physiological wounds are inflicted—one upon the matrix of the mother, and the other upon the umbilicus of the child.*

The maximum of their common velocity has been split. There are two resultants, in each of which must necessarily occur a change in the mode of motion.

Thereafter, if the natural process be completed, the child is

* These words are intended merely to call attention to the *physiological* phase of parturition, and not to imply assent to the doctrines of the localists, who look for the origin of puerperal diseases, to these lesions. Trousseau and Simpson, have each suggested the comparison of an amputation; but only to further suggest that puerperal diseases were similar to those resulting from surgical wounds.

simply transferred from one position to another—and the analogy to the fruit of the tree is no longer observed. The former, instead of being suspended from the uterus, becomes suspended from the breast, and continues to be there nourished by the maternal blood. But that blood is now filtered through a gland cell, and the motion of the leucocytes is transmuted into the motion of milk corpuscles.

In the process of this amputation, and of the production of these two wounds, the survival of the excised part is analogous to the growth of plant cuttings and buds, after their implantation in a new soil, or their grafting upon a foreign stock. It is here that the pendulum of life swings most nearly out of the limits of physiology into those of pathology. Here most readily does a normal mode of motion become abnormal. The effect upon the mother of this sudden cessation of the vascular current setting in to the fœtal veins, is profound for good or evil. There is a temporary pause before the current again floods beyond its usual limits into the milk-stream.

Health, and what we call disease, touch each other never so nearly as during this interval. Ever so slight an interference with function at this time—ever so insignificant a derangement of force—may confer upon the trembling bioplasts a species of motion which may prove potentially destructive in an incredibly short space of time. It may actually beget a contagious disease, capable of extending itself throughout a community of human beings with fatal energy; may induce a series of changes which will permanently impair the economy of the organism; may even so add its effect to that of the ordinarily benignant maladies as to impart to them somewhat of its own destructiveness and contagiousness.

It is conceivable that the maternal leucocytes may be so influenced by the mutations described above, that they become capable of preserving, for a longer or shorter time, their novel modes of motion—of transmitting still further modified activities to their descendants—of extending numerous diseases to the other sex and to many individuals: in short, of becoming primordial "disease germs."

Do contagious diseases originate in this manner? Did they ever originate in such a manner? Are contagious diseases modi-

fied by such a process? These are interesting and important questions, which cannot perhaps, in the present state of our knowledge, receive a categorical answer.

A critical examination of the literature of puerperal disease will suggest to the candid and unprejudiced student, that, in the multiplicity of conflicting dogmas, much that is founded upon fact, much that is of itself incontrovertibly true, is embodied in each. And yet each seems to just fall short of the expression of a fact or principle, which might serve as a clue to the pathology of the disease.

Dr. Fordyce Barker, in his valuable treatise upon this subject, recently published in this country,* states that more than twenty-thousand pages have been printed in connection with puerperal fever during the last twenty years. Subjoined is a brief analysis of his careful review of the various theories respecting this disorder, which represents modern authors. According to Prof. Barker, "it occurs in a peculiar state of the system, arising from a modified condition of the blood, induced by gestation; from lesions of organs resulting from compression, contusion and laceration by the process of parturition; from a retrograde metamorphosis of uterine tissue; from the special physiological changes of the internal surface of the uterus; and from the function of lactation."

The first theory considered is that of the *localists*, who would have it appear that the fever and general symptoms are secondary to, and consequent upon, inflammation of one or more of the tissues and organs concerned in the parturient process. This is, or was, the opinion of Professors Meigs and Alonzo Clark, of our own country; Beau, Piorry, Jacquemier, Cazeaux, Trousseau, Behier, Mattei, Pijot, and Berne, of France; and Dr. Robert Lee, of Great Britain.

The second theory is that of Cruveilhier, Sir James Simpson, Spiegelberg, of Breslau; and Professor Schroeder, of Erlangen. These authors regard puerperal fever as analogous to traumatic fever, and the severer forms of it as due to either septicæmia or to pyæmia.

According to a third school of writers (Prof. Jos. M. Smith, Guerard, Dubois, Depaul, Danyau, Lorain, Tarnier, Fox, Ken-

* The Puerperal Diseases. Fordyce Barker, M.D. New York. 1874.

nedy, McClintock, and others), puerperal fever is primarily a blood disease, developed, like other zymotic diseases, by epidemic, endemic and contagious causes, in which a modification of the general organism occurs, antecedent to the local lesions; consequently the local lesions are secondary: that is, they are the result of the disease, and not its cause. In short, according to them, it is an essential fever.

Dr. Tyler Smith, Dr. Robert Barnes, Professor Scanzoni, Braxton Hicks, Hall Davis, Graily Hewitt, W. S. Playfair, Wynn Williams, and Professor Leishman of Glasgow, hold to a fourth doctrine. They include under the term puerperal fever, all zymotic diseases, such as typhus and scarlet fevers, erysipelas, diphtheria, hospital gangrene, septicæmia, and all of the severe primary inflammations, when they occur in a puerperal woman. The idea of primary vitiation of the blood they do not reject, but term the disease a puerperal fever, whatever may be the nature of the specific primary poison.

Two authors, Professor Edward Martin, of Berlin, and Hervieux, of Paris, have adduced arguments in support of their several opinions, which differ from those given above. The former holds that "the diphtheritic process in the genitals of the lying-in-woman is the only essential element of puerperal fever." The latter believes that there is a plurality of puerperal diseases, as numerous as the local lesions, their type agreeing with the development of a puerperal poison—a sort of hospital miasm.

Prof. Barker's "confession of faith," after his investigation of the subject, is well worth reproduction. It is formulated as follows:

"1. There is a fever which is peculiar to puerperal women, and which is therefore appropriately named puerperal fever.

"2. The symptoms of this disease are essential, and are not the consequence of any local lesions, and it is as much a distinct disease as typhus, typhoid, or relapsing fever.

"3. It belongs to the class of zymotic diseases, and *results from some unknown blood changes.*

"4. *We are as ignorant of the specific cause of these changes* as we are of those which develop relapsing, scarlet, or any other of the essential fevers.

"5. The determining cause may be either epidemic influences, contagion, infection, or probably nosocomial malaria.

"6. Any of the local inflammations may occur in the puerperal woman without puerperal fever; and, on the other hand, puerperal fever may be so severe as to destroy life without sufficient local disease to account for the symptoms or explain the cause of death.

"7. The specific causes which develop the exanthemata, such as scarlatina or small-pox, may develop the specific disease with intense malignancy in the puerperal woman, but this does not transform the disease into a puerperal fever.

"8. Septicæmia may be developed in a puerperal woman either from autogenetic or heterogenetic infection, without puerperal fever, but this infection may also complicate puerperal fever."

The seventh and eighth of these propositions merely announce the non-identity of symptoms in puerperal and other disorders—a fact which is verified by daily experience. They by no means preclude the possibility of the existence of a causative or influential relation between zymotic diseases (with which puerperal fever is classed in the third proposition); and we are assured in the fourth proposition that the cause of these specific ailments is unknown.

Professor Leishman,* whose name has been already cited, says that "a series of facts of surpassing interest seem to show that the puerperal poison *may* be developed from other poisons of a similar kind, which has led some to conclude that the cause is less specific in its nature than a septic influence operating upon the peculiar conditions of the puerperal state." After illustrating this point by the citation of several cases, he proceeds to announce his belief, that the poison of the disease is associated with others of a similar nature. Attempts have indeed been made to prove that the poison of erysipelas is identical with that of puerperal fever, and although it is too much to assume that this has been made out, "*there can be no doubt that either affection is capable of being generated from the other.*"

The work of Dr. Minor, of Cincinnati, which has just issued from the press,† is exceedingly valuable as a means of esti-

* A System of Midwifery, including Diseases of Pregnancy and the Puerperal State. Wm. Leishman, M.D. Philadelphia. 1873. Page 656.

† Erysipelas and Child-Bed Fever. Thomas C. Minor, M.D. Cincinnati, 1874. Page 119.

mating the relative extent to which puerperal fever and erysipelas prevailed in the United States during the census year of 1870. On the score of taste, many objections might be made to the literary standard of this brochure, and yet it would be singular indeed, if from the mass of statistics which the author has compiled, some valuable conclusions could not be deduced. That one in particular, which the compiler has reached, will no doubt receive the assent of those who have the patience to follow in his footsteps.

He thinks that "in any place where erysipelas is found, there will be found puerperal fever," because:

"1. Erysipelas and puerperal fever seem to prevail together throughout the States;

"2. Any marked increase in any one locality, of one disease, seems to be accompanied by a corresponding increase of the other;

"3. Where histories of past epidemics of either disease are obtainable from any of the States, the seeming connection of the two diseases was noticed by physicians at the time of such epidemics, and remarked on; and

"4. For these reasons we are, I think, justified in concluding that there is an intimate connection existing between puerperal fever and erysipelas."

It has been aptly said, that where an unusually long list of remedies has been recommended in the treatment of a single disease, it is presumable, either that the latter has an inherent tendency to limitation after a given interval, or that no one of the remedial agents is capable of exercising upon it a specific curative effect. And it may be equally suspected in the multiplicity of opinions respecting the etiology of a single disease, either that the exact truth may have been partially and imperfectly recognized by each observer, or else that it has been totally concealed from all. And in the instance of puerperal fever such a suspicion is confirmed by the only portion of the verdict of the profession at large which seems to have been unanimously rendered, viz.: "*unknown blood changes.*"

The most modern of the doctrines relative to contagion, is that enunciated by the distinguished histologist, Dr. Beale, of London; and, although it may be objected to his teachings, that they are as

yet unsupported by sufficient evidence, yet, in the language of one of the ablest recent reviews of the germ theories of disease: "they are ingenious, plausible, and worthy of provisional acceptance till better are found."* Their application to the puerperal etiology is conspicuously satisfactory, though, so far as I am aware, Dr. Beale has not illustrated this point in his late essays.

According to the latter,† the active principle of all febrile contagious diseases is of animal origin, and to be found in the living matter of bioplasm. The bioplasts, or leucocytes, in this view, are the sole active agents in the phenomena of life: the repair of injury, waste, the repair of and the economical utilization of material. Once diverted in their active energy, they may become powerful for evil rather than potent for good. By degeneration they may retain the power of producing bioplasts like themselves; but these descendants are incapable of building up new and normal tissues, and merely form cell colonies which are capable of producing disease and the lesions of disease, and of retaining the power for an ill-defined period, even when situated external to the living animal.

Beale exhibits in his work, plates which represent the disease germs discovered by him in vaccine and variolous lymph, and in the secretions removed from animals infected with the cattle-plague. Many of these are viewed under an objective of one-fiftieth of an inch focal distance; and when these are contrasted with others representing the normal growth of cartilage and vascular tissue, inspected through the same media, the result is a most vivid realization of the activity of the blood-bioplasts in health and disease.

Dr. Hurd, though dissenting from the conclusions to which Beale has arrived, is yet willing to concede that they "accord with the doctrines of the modern German school of biology. All recognize the white corpuscles as the chief blood bioplasts possessing a wonderful constructive power, in health, and being the active agents in disease." The discoveries of Woodward regarding the migration of these leucocytes, have served but to stimulate and extend the development of these facts.

* On the Germ Theory of Disease. E. P. Hurd. Boston Medical and Surgical Journal, July 30, 1874.

† Disease Germs, Their Nature and Origin. Lionel S. Beale. London. 1872.

It is no objection to this belief, as urged by Dr. Hurd, that "all kinds of germinal matter look alike, and are undistinguishable by any characters which the microscope or chemistry can discover;" but rather one of the chief arguments by which to support its validity. Do not all germs resemble each other to a degree that has awakened the keenest activity in the minds of the advanced thinkers of our age? The germs which enfold the future organisms, whether of plants or animals, exhibit no feature which can serve as an indication of the future form, sex or even species of the individual. Huxley, much contradicted and more abused, is nevertheless an oracle of wisdom when he asserts that "one mass of non-nucleated protoplasm is undistinguishable from another. Why call one, plant; and the other, animal? The only reply is, that so far as form is concerned, plants and animals are not separable, and that in many cases it is a mere matter of convention whether we call a given organism an animal or a plant."*

What we choose to call health and disease do not differ from each other by as much as as do the kingdoms of animal and vegetable life. There is a unity of type and design, and a similarity of germ and organ, in animals and in plants; and the homology of fever is to be sought in the flush of the ruddy cheek of youth. Nay, more; since the stork is said to endure with impunity the venom of serpents, and the quail to thrive on a diet of hellebore,† it may be that, for the complete understanding of a strictly physiological process, it is requisite to solve some of the problems of pathology.

Dr. Beale figures in a manner most lucid to the eye the movement —amœbiform and slow—of the living bioplasts; but upon this essential evidence of their vitality, he does not lay as much weight as upon the proofs of their marvellous reproductiveness. Still, it is possible that upon the former, the entire argument respecting the *contagium vivum* will eventually be found to turn. Heat, light and electricity are now demonstrated to be merely modes of motion, interchangeable and intercurrent. At present the motion of the bioplast appears to be not only the condition of its vitality, but a measure of its reproductiveness. A change once effected

* Fortnightly Review, February, 1869.

† Sir Thomas Browne. Vol. 3, p. 358.

in the mode of that motion, must of necessity exert an influence upon the direction in which that energy is exerted. The forces which produce the foot-pound and the units of heat and light, are not more separate than those which result in the bioplasm of cartilage and the neoplasm of cancer. It is no more difficult to believe that a blood corpuscle can store up the momentum which will eventuate in small-pox, than to assent to the fact that the swing of a sunbeam centuries ago, is released from a fragment of carbon in the impulse which propels the piston of an engine to-day.

The trend of the strata exposed by modern research is altogether in one direction—unity of design, uniformity of law and economy of force and material. Man is born of the same energy which produces the bud of the torula, and dies after the manner of diseased wheat. We say that visceral ectrophy in a human being is anomalous, but plants exhibit this phenomenon when they have arrived at the maturity of normal development. The tulip exhibits the phases of a perfect life when its digestive organs are outspread to the sun and air; and it is not ashamed to expose to the eye of the world all its members and processes of generation. Even the so-called "monstrosities" are beautiful in their display of order in perversion. That which is most normal "is often an expression of the widest diversity from type; and even the brain has been called a parasite of the complex animal organism."*

The correlation of the vital and physical forces is no longer a question, but a demonstrated fact of science. Barker, Le Conte, Meyer,† and others, have ably shown that nerve force, muscle force and thought force are transmuted potential energies, measurable by the amount of heat stored up in the food which is digested. But here they have stopped. They have contented themselves with studying the complex velocities of whole muscles, whole brains and whole bundles of nerves, in the healthy animal. It is the province of medicine to study the modified velocities

* Nouv. Dict. de Med. et de Chir. Article, "Contagion."

† Barker. Correlation of Vital and Physical Forces. New Haven. 1871. Le Conte. Correlation of Vital and Physical Forces. American Journal o Science, Vol. II, No. xxviii, p. 305. November, 1859. Meyer. On Organic Motion and Nutrition. Extract from Essay in "Tyndall on Heat." New York. 1867.

which generate disease not only in gross textures, but in the bioplast and its brood of pestilential germs.

If, then, the leucocytes of the blood are so altered in the abnormal puerperal state that they actually beget a contagious disease—and if it is true, as many have asserted, that the latter is intimately associated with other, if not all other, contagious diseases, then perhaps the creed of some of the fathers of medicine may not be, after all, so very far astray. For example, Alphonse Le Roi believed that most of the causes which produce degeneration in the human family originate with the female. "With a view more effectually to follow the labyrinth of the human economy," he wrote, "it appears necessary to study that of the female: in this way, we may perceive more frequently and more certainly than in that of the male, the course and progress of disease. Moreover, the degeneration of the species always begins in nature with the woman." And even Boerhaave was not far from the truth when he wrote in 1690: "Several diseases owe their Birth to no other Cause than Pregnancy, whereof some do proceed from the menstruous Blood being hindered to separate because of the Closeness of the Womb, and the Fœtus not being yet able to consume the Quantity conveyed thither for its Nourishment."*

Because such a statement might be paraphrased, in the language of modern science, as follows:

"Several diseases originate exclusively from the puerperal state, and some, from the abnormal energy of the bioplasts of that blood which, in the non-pregnant condition, would have become menstruous. But the retention of the latter during pregnancy, enables them to communicate their velocities to the bioplasts of the fœtus, and an excess or diversion of these velocities, beyond what is requisite for the production of physiological effects, generates disease."

A curious and interesting illustration of the influence exerted by the puerperal condition upon contagious disease, is to be found in the history of the attempts to secure immunity from variola by the process of inoculation and vaccination.

The connection between variola and vaccinia is not yet clearly

* Translation of the Aphorisms of Boerhaave. The title-page of this venerable work is wanting.

established. Whether the sheep, the horse, the cow, or man, first exhibited the symptoms of the parent disease, and which race was first to contract it from the earliest infected individual, is a problem the difficulty of whose solution is self-apparent. Yet it must be admitted that human variola, transmitted through the system of the cow, undergoes a remarkable transformation.

Now it is not a little singular that most of the observers and more of the experimenters in this interesting field, have been obliged to confine themselves not only to the female of the bovine race, but even to the lactiferous female. Ceely, in the *Transactions of the Provincial Medical and Surgical Journal* (vol. 8, p. 299) speaks on this subject as follows:

"It is considered that the disease (vaccinia) is peculiar to the milch cow—that it occurs primarily while the animal is in that condition—and that it is casually propagated to others by the hands of milkers. But, considering the general mildness of the disease, the fact of its being at times entirely overlooked, and that its topical severity depends almost wholly on the rude tractions of the milkers, it would perhaps be going too far to assert its invariable and exclusive origin under the circumstances just mentioned: yet I have frequently witnessed the fact that sturks, dry heifers, dry cows and milch cows milked by other hands, grazing in the same pastures, feeding in the same sheds and in continuous stalls, *remain exempt* from the disease."

Seaton, Medical Inspector to the Privy Council, says, in regard to the same subject, "it particularly attacks milch cows; indeed, as a spontaneous disease it occurs *almost, if not quite, exclusively*, when the animal is in that condition. Young cows and milch heifers appear to be more subject to it than older cows." *

In the numerous attempts to produce vaccinia by variolous inoculation of these animals, the same general influence of the puerperal state is clearly evident. Dr. Seaton reports that all attempts to infect cows directly by repetition of Sunderland's experiments—as in England, by Mr. Ceely;† in India, by Mr. Macpherson, and by Mr. Lamb;‡ and on the Continent, at the veterinary schools in Alfort, Berlin, Weimar, Bergen, Dresden,

* Hand-Book of Vaccination. Ed. C. Seaton, M.D. London. 1868.

† Op. cit.

‡ Transactions Med. and Phys. Society of Calcutta. Vols. 6 and 8.

Kasan, Utrecht and Stockholm, were unsuccessful. For although both at Utrecht and Stockholm, a pustular or vesicular eruption appeared on those parts of the animals experimented upon, which were in immediate contact with the infected coverings, this was evidently of a local non-specific character.

But in 1836, Dr. Thiele, of Kasan, after several fruitless attempts to infect cows by inoculation of the variolous virus, succeeded finally, on several occasions, and produced a virus which was subsequently employed in the vaccination of more than three millions of individuals, and which survived seventy-five transmissions. This success he attributed to the precautions taken in the selection of animals for his experiments; and his previous failures he attributed to neglect of these precautions. I quote his own words (the italics are mine): "Cows should be selected from four to six years old, *which have recently calved;* the inoculation should be performed at the base of the udder."

It is a matter of wonder that so many able experimenters have neglected to observe the coincidence of spontaneous vaccinia and the puerperal state, and to avail themselves of a knowledge of this fact in producing variolation. After a somewhat careful examination of authorities, I am unable to refer to any records of spontaneous vaccinia in bulls; and but a few in which oxen were affected with the disease.

"Grease"—which has in numerous instances produced vaccinia in cows, and even typical vesicles in the human being which subsequently secured immunity from variola—seems to occur indifferently in geldings and mares. When the latter are infected, not only the pelvic extremities exhibit cutaneous lesions, but also the vulva and teats. It is, however, quite probable that sufficient observations have not been made to establish, definitely, the history of this disease, since it is apparent in the descriptions recorded, that grease has been confounded with other non-contagious disorders. Even so good an authority as Forester, declares that "the disease is caused by neglect, the horse being allowed to stand in the stable with cold and wet heels,"* a condition which, though favorable to the production of inflammatory disorders, could hardly, of itself, be capable of begetting a contagious disease.

Gamgee, in his exhaustive work on the Cattle Plague, alludes to

* On the Horse. Vol. II, p. 492. New York. 1857.

the influence of parturition upon the extension of that disease. He states that pregnant animals are readily infected, but not so readily as at the period of calving. In these cases there is more or less redness of the visible mucous membranes, which is especially noticeable in the vagina of cows; and the characteristic eruption invades the mammæ, the inside of the thighs, the back and the loins.

A discussion of the interdependence of the puerperal and all contagious diseases, would exceed the scope of this article. But that such a relation exists—intimate, if not essential and causative—is tolerably clear from the evidence. The eruptive fevers, phthisis (which is still considered contagious by Villemin and Guerin) and syphilis, are admitted to be grave complications of pregnancy, but unlikely to occur—syphilis excepted—until after its completion. The protection which is hence assumed to be conferred by the gravidity of the uterus, has been attributed to extraordinary activity on the part of the vital forces, which are presumed to be too intently engaged upon the building up of a new being, to exert themselves elsewhere, or in other directions.

But it is probable that, if such immunity exists, it depends upon some other causes; for the non-contagious diseases do not find in the pregnant female any obstacle to their inception and continued progress. Non-specific eruptions, which are unaccompanied by fever, pursue an uninterrupted career during the continuance of pregnancy, and many such are not amenable to treatment till delivery has occurred, when they tend to a spontaneous disappearance. This is precisely the reverse of what occurs in the eruptive fevers, which are more easily contracted after delivery, than before. Cazeaux, on the authority of Serres, reports that this is true of scarlatina.*

If the conclusions here suggested are sustained and accepted, it will not be extravagant to regard the condition of the woman who is pregnant as analogous to that of her husband who has the small-pox. By contact (or contagion) she has been placed in a physiological state, through the medium of a germ, a ferment, or a virus—call it what we may. In an etymological sense, it were wiser to call it a virus, for the vis is that which constitutes the

* Traite theorique et pratique de l'art des Accouchements. P. Cazeaux. Paris. 1867. Page 438.

essential element of all venom and virility. His disease was contracted in a similar way.

She forthwith proceeds to elaborate a new organism by the process of cell multiplication and segmentation; just as he who is infected, develops his poison. But that which she elaborates is not the ciliated cell which she received from her husband. It is that which she herself secreted from her ovary—fructified, it is true, by the former, but yet a scion of her own blood stock.* That which he multiplies, is the leucocyte of his own blood, fructified, changed in function, velocity, or reproductiveness, by the cell with which he was infected.

She develops her cells with all the activity of maternity, in the great emunctory of the uterus—he, his, in the smaller emunctories of the muco-cutaneous system.

His blood is profoundly affected, and there results a febrile movement: so is hers, and the mammary, renal and other glands exhibit their sympathies.

When the fruit of her womb is mature, she brings it violently into the world: in like manner his pustule bursts and discharges its contents. In the one case, and in the other, the microscope can discover nothing in these products but masses of growing cells.

The perfect product of her womb is a thing of life: the perfected product of his pustule is living matter.

Each process leaves in the human body an indelible record of its history.

The greatest fatality in each, occurs after the expulsion of the organized mass.

But after this expulsion, these cell masses are not wholly abandoned to external influences. The child, for a further space of time, is fed upon its mother's milk; the scab, for a short period, is fed by its imperfect connection with the subjacent tissues.

The contents of the pustule can, after incubation, excite in an unprotected individual, the entire chain of phenomena which make up the disease. The product of the womb can also, after its arrival at puberty, impregnate, or be impregnated by, another, and thus perpetuate itself.

* Martin Barry has seen the spermatozoid actually find its way into the ovum, through a minute perture, in the Aascaris Mystax. See Bennett's Text Book of Physiology. Philadelphia. 1873. Page 48.

These comparisons may appear fanciful to some, but if they have not a substratum of fact, the revelations of the last decade are as untrustworthy as the utterances of the Delphic oracle.

There are many other interesting questions which the consideration of this subject suggests. Such are the relations between puerperal disease and the septicæmic affections of the new-born child — the influence of certain morbid mental and physical states of the mother upon the milk which she secretes, and, in especial, the study of the toxicology of milk. This secretion is so closely connected with the puerperal state, that the interest which attaches to it, is largely derived from that fact. The bacteria which the microscope has detected in this fluid,* have never sufficed to sustain the theories which would account for its morbific agency. It is more than probable that whatever power for good or evil it possesses, it owes rather to the leucocytes of the blood which are its legitimate ancestors, than to any microscopic germs of foreign extraction.

A great French cuisinier† has inscribed upon one of the first pages of his treatise on his art, the following words: "A cook should be above prejudices." What a lesson is there for the scientist! We have an authentic record of articulate speech from only one dumb animal, and that was not when he found himself confronted by an angel of truth. It was only when a soi-disant prophet, blinded by his prejudices, attempted to force the animal against the obstacle in his path, and bruised himself in the effort.‡

Perhaps we shall, in our day, read an explanatory answer to the question propounded to himself by a thoughtful physician, in the retirement of his study upon the Via Sacra of ancient Rome:

"*An quis varioüs et peste simul laboret?*"

* Transactions of the Royal Microscopical Society of Great Britain. Vols. 3 and 5.

† Pierre Blot—who recently died.

‡ Numbers xxii, 28.

ARTICLE II. — *Koumiss, and its Use in Medicine.* By OSCAR C. DE WOLF, M.D., Chicago.

During the years 1858, '59, '60, '61, while a student of medicine in England, and on the Continent, I heard occasionally of the wonderful effect of a preparation of fermented milk when taken largely as a dietetic remedy. I recall particularly a clinical lecture by the immortal Trousseau, at the Hotel-Dieu in 1860, in which he confirmed the statement of a German investigator that "it possessed the highest power of nutrition, and was one of the most decided enemies of emaciation we could produce." It does not appear to have received the attention in this country which it merits, and while enthusiasm may (after the fashion of our people) misrepresent it as a cure-all, it nevertheless has a legitimate place in medicine which a more extended acquaintance and use will develop and define.

I have been able to gather much that has been written in Germany and England on the subject, and I venture to collate such facts in regard to its history, and use, as will interest the profession and command their attention. I have consulted the following works, and some of them are now before me. Grieve, in Edinb. Transact. 1787, pp. 278; the London Med. Journal, 1789; Ucke on the Climate and Diseases of Samara, 1863; The Result of Eight Years' Residence in Orenburg, 1843–51, by Dr. P. DeMaydell, Medical Inspector for the Government of Oriel, Russia; Balneologische Notizen uber die Kurmittel des Bades Reinerz, by Dr. Herrman Biegel, physician to the Metropolitan Free Hospital, London, 1863; Koumiss, in the Treatment of Phthisis, by Dr. Jagielski, London, 1872; Der Kumys und edessen Anwendung in der Therapie, by Dr. J. Brzezinski, Berlin, 1872; Der Kumys Seine Physiologischen und Therapeutischen Wirkungen, by Dr. E. Stahlberg, St. Petersburg, 1869; Therapeutical Properties of Koumiss, translated from Le Progress Medical, by Fred. J. Huse, M.D., in Medical Examiner, (Chicago) Oct. 1, 1874. Further acknowledgment for whatever I may use from the above authors is unnecessary.

Dr. Grieve says, "it may appear surprising that one of the most important productions of milk should still remain in a great measure unknown to the most enlightened portions of Europe.

This production, which is procured by fermentation from mare's milk, is a vinous liquor, and it was scarcely to be expected that after it had escaped the observation of men the most skilled in chemistry, it should be taught us by a horde of Tartars, whose rank in the social scale is not above that of barbarians."

Koumiss as prepared from mare's milk, has its native country in those regions of the Russian Empire in Asia, between the Don, Volga, and Sea of Aral, consisting of the Steppes, inhabited by the Tartar tribes, especially in the country of Orenburg, which, according to Von Humbolt, belongs to the so-called "Continental climate," where the summer is exceedingly dry, and the heat very great, with scarcely any rain, whereas in winter, continuous frosts are prevalent. The inhabitants are a nomadic people, generally of a strong and vigorous habit of body, with great muscular development and well shaped thorax. Their food is very simple; they live exclusively on meat, especially the flesh of the sheep and horse, and in winter and summer their favorite beverage is koumiss. In order to obtain milk in sufficient quantity the Tartars are accustomed to separate the foal from the mare during the day, allowing it to suck only at night, and the milk is taken from the mare about five times a day. During the winter when mare's milk fails them they use the milk of the cow, which is also susceptible of the vinous fermentation. The preparation from cow's milk they call arjen or arjan, but koumiss is the Tartar name for the fermented mare's milk. They distil a spirit, highly intoxicant, from both koumiss and arjan, which they call arika, and which they keep all the year round in stock.

The mare's milk is kept in a bag made of horse's hide undressed, which by smoking acquires a degree of hardness. Its shape is conical, somewhat triangular, from being composed of three different pieces set in a circular base of the same material. The sutures, which are made with tendon, are secured by a covering on the outside with a doubling of the same skin, closely fastened. These bags are used both for the preparation and transportation of koumiss, and have a dirty appearance and disagreeable smell. The best koumiss, according to Dr. Stahlburg, is made near Orenburg, while that in the departments of Stauropol, Taurien, and on the Caucasus, is not so well prepared; it has an unpleasant efflu-

vium, as even the best preparations from mare's milk always have more or less, but to which patients soon grow accustomed.

To appreciate the chemical changes which milk undergoes in the process of fermentation, we must fix our attention on the decomposition of milk sugar into alcohol, carbonic acid, and lactic acid.

Milk sugar is said to be composed of "C^{12} H^{22} O^{11} + H^2 O; by the addition of a ferment it decomposes into C O^2, and alcohol C^2 H^6. In consequence of this decomposition the sugar yields two bodies: 1. Basic alcohol; 2. Carbonic and lactic acids. While the milk sugar alone is not fermentable, it is capable of conversion into a grape sugar which is fermentable." (Lebert.)

The principal ingredients of milk are casein, fat, milk sugar, mineral salts, especially phosphate of lime, chlorate of potass, magnesia, some iron, etc., and water. The proportion in which these ingredients occur in milk is not only a variable one in man and in different animals, but varies also, and in certain cases very much, in one and the same individual.

According to Dr. With, woman's milk is proportionately poor in cheesy matter, but rich in milk sugar, and fat. Mare's milk is still poorer in cheese, very poor in fat, but extremely rich in sugar. Goat's milk, and that of the cow, are very similar in their proportion of casein, fat, and milk sugar.

The following table is interesting as a matter of reference:

In 100 Parts of Milk.	Woman's	Cow's.	Goat's.	Sheep's.	Ass's.	Mare's.
Water	88.908	85.705	86.358	83.989	91.024	82.837
Solid Matters	11.092	14.294	13.642	16.011	8.976	17.163
Casein	3.924	4.828	3.360	5.342	2.018	1.641
Albumen	------	0.576	1.299			
Butter	2.666	4.305	4.357	5.890	1.256	6.872
Milk Sugar	4.364	4.037	4.004	4.098	5.702	8.650
Salts	0.138	0.548	0.622	0.681		

"The milk of all animals is converted into koumiss by one and the same method," but it will be seen from the above that the milk of the mare, so rich in sugar, will furnish a larger per cent. of alcohol; yet the cow's milk may be approximated by the addition of four per cent. of sugar and two per cent. of fat.

In considering the physiological effect of koumiss, we may suppose that in addition to the well known nutritious value of animal

milk, there are certain accessory agents produced by the fermentative process, to wit: Alcohol, carbonic and lactic acids; and, still further, that the casein, particularly of the cow's milk, when used, has undergone such an important modification that it is dispersed through the fluid in loose floculent masses, "which develop bubbles so long as they are moist, and which dissolve on the tongue like snow."

Three grades of koumiss are manufactured in Germany and Russia, known as A, B and C. "Full koumiss (A) is made from the cow's milk, preserving the whole of the cheesy matter. Medium koumiss (B) is the artificial representant, as nearly as possible, of that made from the mare's milk, by withdrawing the proper quantity of casein and fat, and the addition of such a per cent. of sugar of milk as will approximate the cow's milk to that of the mare. In whey koumiss (C) the casein is entirely removed." By proper manipulation, it is claimed that "the milk of the cow is an equally good, if not better, raw material as that of the mare," and it certainly affords a facility for varying the composition of the product, that the lighter milk of the mare does not possess. From the commencement of fermentation to its completion, that is, until the sugar has been entirely broken up into alcohol, each grade passes through three degrees of fermentation, and when once commenced it will continue, no matter what the temperature, but in passing through these changes it retains all of its general and remedial properties. "In all cases it is a milk-like fluid. In its fresh (No. 1) state it is a still liquor, and has an agreeable, sweetly-acidulous taste. As it approaches No. 2 it becomes more acidulous, and assumes a sparkling character. In No. 3 the sweet taste is replaced wholly by the acidulous, slightly bitter, and it not only sparkles, but rushes from the bottle with great force."

Passing now to the therapeutical uses of "milk wine," it would be useless to review the great mass of clinical testimony presented by the authors to whom I have referred.

The public at large in Russia is accustomed to regard koumiss as a specific against tuberculous affections, and Dr. Stahlburg declares, that "if a remedy against phthisis exists in the world, it *must be* koumiss. Seeland (Medicin der Gegenwart, January, 1862) compares the effect of koumiss to that which is produced by

transfusion, and claims that medicine is in possession of no blood restorer to be compared to it.

Allowing the widest margin for the enthusiasm of the German and French investigators, the legitimate and rational indications for its use are apparent to the practical physician. It cannot be a specific in phthisis, but it may be of immense service in counteracting the disturbed and degraded nutritive changes which predispose to it, while it certainly supplies a food peculiarly adapted to conditions of exhausted vitality, emaciation from any cause, and the gastro-intestinal affections of children. In brief, it must be accorded a high place in the series of plastic nourishments.

My own experience in its use has been very limited, yet small as it is, has been interesting, and is, I trust, worthy of brief notice in connection with this paper.

After many trials and much patient labor, Mr. Arend, druggist, 521 West Madison street, succeeded in producing a koumiss which, so far as I can judge, is a good article. It answers, in every particular, to the description given by those who are expert in its manufacture and use.

While he was experimenting, and not yet satisfied with his product, I was called, on the evening of July 25, to visit a child twenty-two months old, two days sick with cholera infantum. Neither food, medicine, nor ice had been retained in the stomach a moment for eight hours; the dejections were frequent and characteristic; surface cool; face pinched; and the fearful screech every two or three minutes was indicative enough of the complete nervous exhaustion and approaching death of the patient.

I had veryrecently read Dr. Jagielski's paper on koumiss, read before the London Medical Society, in Feb., 1874. In it he dwells much on the magical effect of koumiss, highly charged as it is with carbonic acid, in allaying nausea, calming gastric irritation, and increasing the energy of the heart's impulse. I found a beer bottle of full (A) koumiss at Mr. Arend's, five days old, and returned to my patient.

In opening the bottle, two-thirds of it escaped, but enough was secured to make a beginning, and the child took two tablespoonsfull, a greater part of which was retained. A second bottle was procured. Some of the casein, which had separated in floculent masses, was taken out, and the child fed freely with the remaining

liquor. She took no other food, fluid, or medicine. In three hours she slept, the surface became warm, discharges gradually ceased, and she steadily convalesced.

I frankly confess my belief, that I had no other than this accidental resource which would have successfully met the emergency.

Mr. F. H. L., aet. 26, clerk in banking house in this city, of a consumptive family, consulted me in March last. I could detect no local pulmonary trouble, yet his general condition was far from satisfactory. I advised him to eat fatty food, dress warmly in flannels, and change his occupation. From time to time he reported himself as improving, and so it seemed. On July 27, while at his desk, he had an attack of violent hæmoptysis, which was repeated in three days. I only report his progress and so much of his case as is of interest in connection with the present subject. The lower two-thirds of right lung became solid; not the slightest cough nor expectoration; stomach irritable; would take neither milk, champagne, nor alcoholic stimuli of any kind; slept badly; pulse, 115–30; heat of surface, 101°–3°; emaciation rapidly progressive.

Towards the last of August he became so feeble that he could only be moved from side to side of the bed with much care, and always in a horizontal position. His family were summoned from Connecticut, and I had no thought of his living a week. Prof. Henry M. Lyman, who had seen the patient twice during his illness, was again desired to visit him, and confirmed my opinion of a probable fatal result soon; that he could not be moved, etc. The koumiss was now in successful manufacture at Mr. Arend's, and on August 28th he commenced its use.

He had great disgust of milk, could never take a tablespoonful without pain following it, and objected strongly to the koumiss. He soon learned to love it, however, and took, for ten days, about one quart per day. His sleep returned: indeed, his nurse and friends were fearful he was sleeping too much, and would awaken him; pulse slowed to 100 per minute; temperature fell to 99°; and his strength was so far recuperated that, on September 10th, he was ready to undertake a journey of fifteen hundred miles, which he accomplished comfortably. Since deprived of his koumiss, he is again sinking, and in a letter from his father, dated September 23d, he informs me: "Frank has gone back about

where he was before he commenced the koumiss." While the case would have progressed to a fatal issue under any circumstances, yet the markedly restorative influence of koumiss was well exhibited, and were my paper not already too long, it would be instructive to consider the "manner and the method" of its help to my patient.

In a case of carcinoma of the rectum, in which the patient had become greatly exhausted from the profuse discharge, and an irritability of the stomach, which for days refused all nourishment, the effect of koumiss in arresting vomiting, producing sleep, and temporarily reviving the strength, was extremely gratifying. Prof. J. Adams Allen saw this lady, in consultation.

Mr. B., æt. 31 years, bookkeeper, has suffered much from dyspepsia and nervous depression for the past two years, and for three months, last spring, was not able to occupy his desk. Food distressed him; bowels distended and sore; considerable emaciation. In July he visited the Atlantic coast to obtain benefit from the sea air. Not much improvement. Commenced taking koumiss last of August, and in one month had gained in weight seven pounds; called himself well. Early in October he returned to his ordinary diet, and his dyspeptic troubles recurred. He is now taking koumiss, with the same benefit as at first.

The quantity of koumiss advisable to take in commencing its use, should not exceed one champagne bottle daily, for an adult, and even that amount sometimes produces a slight febrile reaction. If headache occurs, it should be suspended for a day or two; but in a short time a toleration is generally established, and the patient soon discovers how much he can take, and then he may live entirely upon koumiss, or, when the stomach will tolerate other food, it may be added. It does not interfere with any other course of treatment. The secretion of urine is generally much increased. When a tendency to constipation exists, the fresh product (No. 1 or 2) should be used, but if diarrhœa is troublesome, an older sort should be taken. A piece of stale bread or cracker, eaten immediately after drinking, will relieve the fullness of stomach sometimes complained of.

The desire for sleep generally experienced after drinking koumiss, should be regarded as beneficial, and should not be interfered with.

ARTICLE III.—*A Case of Injury of the Head.* By GEORGE J. MONROE, M.D., Leland, LaSalle Co., Ill.

Mr. Iver Jacobson was loading the horse power of a threshing machine on the evening of October 1, 1872, by rolling it up with a roller through which a crow bar was passed. By some means the bar slipped from his hands, when it flew back, having the whole weight of the horse power upon it. The bar struck him upon the top of the head, at once knocking him senseless. I was sent for, and found him, in about one hour after the accident, in a comatose condition, with heavy labored breathing. Pulse, 30; respiration, 7; feet and legs cold; eyes and face swollen. Found a flesh wound on the crown of the head about five inches long, running in the antero posterior direction. Found a fracture extending from the occipital bone to the frontal, and down the frontal to the orbit. About midway from the occipital to the frontal, the parietal bone was fractured on the left side down to the temporal bone, and several pieces loosened. The frontal was also fractured on the left side from the middle fracture, commencing at its contact with the parietal, to the external superior angle of the eye. I shaved the head near the injury, and removed several large pieces of detached bone. Brain matter, I should say, to the extent of two ounces exsuded. Ordered ice to the scalp, jugs of warm water to extremities, as well as about the body. Told his friends that he would die, but if alive in the morning, to notify me; also, to send for Dr. Vosburgh, of Earl, to meet me in consultation. Was informed in the morning he was still alive, and that Dr. Vosburgh had been sent for. Took Dr. Hinkley from our town, and reached the patient about nine A. M. Dr. Vosburgh soon arrived. Found the following conditions: pulse, 60; respiration, 15; extremities warm; reaction taking place; face very much swollen; had passed fœces involuntarily. Drew the urine with catheter. Brain matter still exsuding. The left anterior quarter of the parietal bone was depressed below the balance of the bone at least one-fourth of an inch. Inserted a spatula under it, and pried over the right parietal bone, which means was successful in elevating the bone to its proper position. Instead of it falling back, as I anticipated it would, on removal of the spatula, it remained as elevated, and never has become again depressed.

Not deeming any further interference necessary, expecting our patient to die, we ordered ice to be continued to the head, and heat to the extremities. As he could not swallow, we ordered injections of beef tea and quinine per rectum.

Oct. 3. Head very hot; pulse, one hundred and ten; respiration, thirty-five. Had not voluntarily moved any portion of the body. Continue treatment.

Oct. 4. Found patient in nearly same condition. His wife said that some liquid she had put in his mouth, after remaining some time, had been swallowed. I tried the experiment, and after retaining liquid which I put in his mouth some three minutes, he swallowed it.

The symptoms remained very much the same for the next seven days, with the exception of the swallowing, which grew better and better each day, until about the twelfth, when he would swallow any liquid which was put in his mouth. On the thirteenth, he opened his eyes, but I do not think he could see. Along about this time he passed his urine without assistance. He moved his hands and feet some; made a great many motions with his hands, as though he wanted something. I concluded he had partial control over the rectum, and his returning sensation told him his bowels wanted to be emptied. His wife put cloths under him, and during my visit he had an evacuation. After this, when he made those peculiar signs, his wife would put cloths under him, and his bowels would move. I think sight partially returned about the sixteenth. On putting a piece of cracker into his mouth at this date, he attempted to chew it. The fever had entirely subsided on the twentieth; the external wound nearly healed. A bunch about the size of a walnut had formed where union had taken place in the scalp. On examination, I concluded I felt fluctuation. I struck my lancet into this swelling, when there was a profuse dicharge of purulent matter. In about an hour from this time, his wife, on going back into the room, from which she had been a few minutes absent, found him sitting up in bed and looking bewildered. He asked, after looking at her awhile, where he was. She told him. He then asked if they had gone with the separator. She told him, yes. He then asked where the horse power was. She told him it was gone too. This was apparently a poser to him, for he said he thought he was helping to load it.

He finally put his hand to his head, and found it sore. He asked how that happened. His wife then told him all about the accident. He could not comprehend that he had been lying there twenty-one days. It was all lost time to him, and something of a mystery. I found him rational on my next visit, but with a difficulty of everything appearing double when looked at with the left eye. He continued to improve from day to day. The difficulty with vision gradually subsided, and was all gone in about six months. He frequently tells me that three weeks of his life was a blank. The wonder is, that with such an extensive fracture of the skull, with such an extent of brain injury and loss of brain matter, he recovered at all; and still more wonderful, that he should recover without any impairment of his intellectual faculties.

Reports of Societies.

Chicago Society of Physicians and Surgeons. *Transactions at Special Meeting, September* 2, 1874. Reported by RALPH E. STARKWEATHER, M.D.

The President, Dr. John Bartlett, in the Chair. The meeting had been called, by request of several members, in order that the Society might hear Dr. Ely McClellan, Assistant Surgeon of the U. S. Army, speak informally upon the cholera epidemic of 1873. He said that in 1873 Pelikan and other Russian sanitarians startled the medical world by declaring that cholera had become endemic in Russia. Recently, Dr. Radcliffe, at a meeting of the British Medical Association, demonstrated the error of this conclusion. He then pointed out upon the map the two lines of travel from India to Europe, the North Persian, the route by way of Jelalabad, Herut, Meschid to Asterabad upon the Caspian sea, across to Baku, thence overland to Tiflis and to Poti, upon the Black sea. Secondly, the Red Sea route, from India, by way of Bombay, down the river Indus to Kurrachee, thence up the Persian gulf, via Shiraz and Ispahan, to Teheran, the junction of the north and south Persian routes. Kiev, the holy city of Russia, is located on the

river Dnieper, and is visited annually by thousands of pilgrims. In 1869 the cholera spread from Kiev down the river Dnieper to Odessa. It arrived 1870 on the Baltic sea, by the rivers Niemen and Vistula, which are connected with the Dnieper by a series of canals. In 1871, cholera prevailed in Prussia and Austria; in 1872, Austria, Prussia, Italy, France and Holland; in 1873, in Great Britain. In 1873, too, cholera entered New Orleans, from Europe: no less than seventy-three vessels having arrived from infected ports.

The history of an initial case was then given with great clearness and rapidity, of an Ohioan sick with the cholera on a river steamer from New Orleans. He died before reaching Memphis, at which place his remains, as well as his garments and soiled clothes, were taken ashore, and the body put into a casket and forwarded to his home. The German woman who washed his garments and his body, died from cholera two days afterwards. From these two cases the epidemic originated, and from none other. Near this city various public works were in progress, canals and railroads. It was in this city (Memphis) that the great outbreak or explosion of cholera took place—(it was not the first point of infection, however)—from which in all directions the disease was carried. The various lines of railroad in the State of Kentucky were pointed out as having numerous towns into which cholera had been brought by commercial travelers, by negroes, or by infected clothing. Then various counties of Kentucky were mentioned as having peculiarities of the epidemic, due to their remoteness from lines of travel, or to streams of water, or good general hygienic condition. It was in Adair county that the cholera was most malignant of the counties of that State—Kentucky—especially in the town of Columbia, where in the rear of a livery stable there was a privy vault full of the most foul putridity; the ground adjoining it was saturated with the fluid from this pest-hole. The proprietor of the stable rejected all attempts made to have it cleaned. Late in August, a negro who had cholera used this privy; from this point of origin, twenty-six persons lost their lives from cholera. Reference was then made to the Marion County Fair—Kentucky—the doctor explaining how universal is the custom among the people, of attending these gatherings; and said that the fair held in August of 1873 proved a most disastrous

means of general dissemination of cholera through that and all the adjacent counties. He was understood to say that it was in one of the patients who took cholera at this time and place, that there was *complete retention of urine for five and one-half days, with subsequent recovery.*

The depressing influences of a panic were forcibly and vividly illustrated by the cases in Garrard county, Ky. In 1836, there had been a devastating epidemic of cholera in that county, and from that time the people had handed down stories of its ravages and sorrowful scenes. When, therefore, after combating the disease in 1873 as being cholera morbus, it was declared to be Asiatic cholera, the consternation and panic became overwhelming, and the disease very virulent and fatal.

A graceful tribute was paid to the authorities of Lancaster, Garrard county, Ky., for that which had seldom been done elsewhere, namely, paying the physicians who labored to subdue the disease; they also disinfected the districts, and took care of the poor, at the public expense.

Dr. McClellan said that he was anxious to obtain the records of the epidemic in the direct line of the disease; he had no desire to be *ex parte*, or to support any theories, but simply to secure facts. He wished physicians would record their cases, and would be glad if they would give him notes of any, stating the details as minutely as possible, such as the sex, age, color, condition in life, date of attack, date of recovery, date of death, remarks, and treatment.

As to the pathology and treatment of cholera, little was said, for lack of time. It was considered to have three stages. The first, was the premonitory painless diarrhœa. Cholera is the only malignant disease amenable to treatment in its first stage; this should be promptly treated, else, if it go beyond, the patient is where no human power can help him. In 1873, there was cholera in Mississippi, Alabama, Georgia, Missouri, Kentucky, Arkansas, Ohio, Illinois, Dakota, Minnesota, and, for the first time, it went to the Rocky Mountains. It was most severe in Mississippi, Kentucky, Illinois, and Eastern Tennessee.

Dr. Hay said that he was glad to have the privilege of hearing the address of Dr. McClellan. Like many other members of the profession, he had been skeptical about the specific character of

the epidemic of 1873, until he had had the opportunity, through the kindness of the Sanitary Superintendent of Chicago, (Dr. B. C. Miller), to examine the infected district, and many of the cases thoroughly. The result of this examination was to banish all doubts from his mind. The convictions then formed had been corroborated by the remarks of Dr. McClellan. Dr. Hay thought, moreover, that there was one point in the doctor's remarks which deserved more than a passing notice, and this was the collation of epidemiological with meteorological statistics, as having a most important practical bearing upon our knowledge, and management of epidemics. In fact, the whole subject of epidemiology was a problem of three essential factors—

The first of which was, the specific poison present, *per se ;*

The second, atmospheric and telluric conditions favorable to its preservation and transmission; and

Third, a condition of the individual organism favorable to its reception and development.

The absence of any one of these factors prevents the accomplishment of the problem.

In conclusion, Mr. President, I move that the thanks of the Chicago Society of Physicians and Surgeons be tendered to Dr. McClellan for the very interesting and instructive remarks he has kindly given us this evening.

Which being put to vote was carried unanimously.

Dr. I. N. Danforth said, those who have listened attentively, must have been convinced of the existence of specific disease germs; they can be traced, man by man, from well to well, drain to drain. The Government has certainly assigned the right man to the right place.

Dr. McClellan said that he could say one thing, that of all the reports he had yet received, the report of the Board of Health of Chicago was the most comprehensive of any; the facts were clear and to the point, and would give him the greatest assistance. Its microscopical report by Dr. Danforth was the only one he had yet found.

Dr. Owens adverted to the fact that this Society had appointed a committee last year to study the disease. The Sanitary Superintendent was present, and said that the first case of cholera in Chicago, in 1873, occurred on May 24th, at No. 444 Arnold street, in

the person of John McFee, a bridge builder, who had been working near Memphis, and left on account of the cholera. When he arrived in Chicago, he had diarrhœa which remained unchecked, and after a week or ten days there were developed choleraic symptoms, which proved fatal.

Transactions at Regular Meeting, September 28, 1874.

Dr. J. E. Owens, Vice-President, in the Chair. The Society met, as usual, in one of the parlors of the Grand Pacific Hotel, and, in the absence of Dr. Hyde, Dr. A. Reeves Jackson acted as Secretary.

Dr. Owens gave, briefly, a report of two cases of fracture treated at St. Luke's Hospital, in one of which, that of a colored man thirty-eight years of age, a piece of bone the size of a filbert had been broken off from the left fibula, about two inches above the external malleolus. The case progressed favorably under the usual treatment, by Dupuytren's splint, the fragment of bone speedily united and became incorporated with the long bone itself. The second case, a fracture of the humerus just above the condyles, was of interest, from the fact that it was caused by the throwing of a base-ball.

Dr. H. A. Johnson addressed the Society upon the subject of Pneumatic Aspiration, illustrating the same by exhibiting and explaining the several forms of instruments now employed, exposing at the same time defects, both in theory and construction, of some of the aspirators. The following is a synopsis of his lecture :

In the first place, the question arises as to what is understood by the term aspiration. Is it anything new, either in principle or mechanism? Is it merely after the fashion of the stomach pump? Some physicians deny that there is any new principle involved in pneumatic aspiration. In my judgment, Dieulafoy has introduced a new idea, and instrument. It consists in this—the previous production of a vacuum, and then its connection with a cavity containing fluid.

The second question that presents itself, is that of the methods of producing this vacuum. The aspirator of Dieulafoy was then explained. It consists of a glass cylinder in which there is a piston, moved by means of a rack and pinion. The aspirator is enclosed in a metal frame, having a broad and heavy base.

There is attached a graduated scale to measure fluids, and also two stop-cocks. The canules and needles and rubber tubing were also exhibited.

Dr. Johnson showed another form of aspirator, known as the *Aspirateur Potain*, to which, for reasons hereafter to be given, he gave the preference. In referring to an instrument made in Boston, a modification of Potain's, he said that it would be unnecessary to purchase the bottle accompanying it, as the perforated rubber cork, with its double canula, would answer every purpose, and bottles were always easily to be found, in most families.

Thirdly. The next step, is to place the vacuum in relation with the cavity to be emptied. As regards the choice of a needle and canula: there are two kinds of needles in use, each suited to its particular purposes. One of the needles is like the ordinary one, used in hypodermic injections; but this is objectionable in cases where the sharp penetrating point going beyond the wall of the cavity, might injure delicate viscera, as for example the lungs. In many respects the needles and canules, which differ from the needles first described, of the Aspirateur Potain, are greatly to be preferred.

This, the second variety, is really a trochar with a canula, with a branch tube for the attachment of the soft rubber connection. In case of obstruction, the canula can be cleared with a celerity and ease quite impossible to the first variety of needle.

The method of puncture was next explained, and that it was necessary first to determine where you wanted to put the point, and then how deeply the puncture should be made.

In some cases, there are gases as well as fluids in a cavity, and by this means the vacuum of some forms of the aspirator may be disturbed, if not destroyed. The application of pneumatic aspiration has been widely discussed of late years in the medical journals. During the past two years, in which Dr. Johnson has employed this instrument, and in upwards of seventy different cases, he has never seen in a single instance any particular discomfort to the patient, from its use. Among the numerous cases reported, the particulars of a case of an obscure and deep-seated pain in the mammary region, which, upon exploratory puncture an inch and a quarter deep by the aspirator, proved to be an abscess, were most instructive. In another case, that of acuté infantile hydro-

cephalus, he had introduced the needle of the aspirator into the anterior fontanelle to the right of and toward the median line, the point directed obliquely, so as to penetrate the membranes beneath the vessels of the longitudinal sinus. A little fluid was drawn off, with temporary relief to the breathing and circulation. There were no unfavorable symptoms attributable to the operation. The patient, however, subsequently died. In another case, where there was acute effusion in the knee-joint, pneumatic aspiration afforded prompt and decided relief, but in forty-eight hours the effusion had returned. The great assistance to be derived from pneumatic aspiration in differential diagnosis was illustrated by the case of a patient who had been under the care of a homœopathist for so-called uterine trouble with reflex uterine irritation. Upon examination, it was found that the apex of the heart was under the axilla, and that the right chest measured two inches larger than the left. The question then arose as to whether there was a solid morbid growth in the thorax, or a fluid only. Upon introducing the canule of the aspirator into the chest, upwards of two and one-half quarts of muddy serum, not yet quite purulent, were drawn off. The patient for the past year, since that event, has been in perfect health.

The subject of injury to the lungs by aspiration by a penetrating wound of the needle, was then discussed. Several cases of great interest and value were cited, going to show that the danger to the lung in any event would be little or none. A noticeable feature in pneumatic aspiration is, that by this operation there is little probability of introducing from without inwards, any points for future infection of the system. Preference was given to the Aspirateur Potain over that of Dieulafoy, because the vacuum was less uncertain, and is more easily to be maintained. It was not considered to be a point of advantage in Dieulafoy's aspirator, that it might be used for the injection of medicated fluids into cavities, inasmuch as it would be like using an unwashed syringe lately containing unhealthful fluids,—pus, for example,—to throw new and medicated fluids into the body.

Dr. Owens reported a case under the care of Dr. Heydock, in which pneumatic aspiration had been tried upon an effusion in the pericardial sac, of a patient who had pericarditis and endocarditis. At the time of the operation, the pulse was 126, temperature, 101$\frac{3}{4}$°

Fah., and respiration, 66. The precordial dullness extended from the first rib to the upper margin of the sixth; apex impulse indistinctly felt in the fifth intercostal space. Laterally the percussion dullness began at about the middle line of the sternum, and extended around to the left side. The needle of the aspirator was inserted in the fourth intercostal space, one inch and a half from the left margin of the sternum: it was pushed upwards, inwards, and a little backwards. Frothy, dark-colored blood appeared in the receiving bottle, probably because the lung had been pierced. Three-quarters of an hour after this operation, the pulse was 120, and the respiration, 45. Dieulafoy remarks of adults that when the needle has penetrated from 1.17 inch to 2.34 inches, the instrument must meet either the heart or the effusion. The head and shoulders should be elevated with pillows, while operating, and the needle plunged in at the close of an expiration. This patient, a boy fifteen and a half years of age, afterwards died. The autopsy revealed perfect agglutination of the pericardial layers.

Dr. Johnson gave an account of a similar operation performed upon a patient at the County Hospital, and of experiments he had made upon the cadaver. The puncture should be two and one-half inches from the left border of the sternum; if you go nearer to the sternum you must have a longer needle: there were some reasons which inclined him to think favorably of puncturing in the fifth intercostal space, but as his experiments had not yet been concluded, he reserved his opinion upon this point.

Dr. Emmons read a report of a case of uterine interstitial fibroid tumor, treated hypodermically by ergotin; of which the following is an abstract:

Mrs. X, married, age 45, American, the mother of three children, the youngest of whom is eleven years of age, was in good health till the time of her last parturition, which proved to be a difficult one, followed by hour-glass contractions, and permanent impairment of health. Two years ago, a noticeable change had gradually taken place: menstruation had become copious and more prolonged than usual, requiring patient to keep the bed for ten days at a time: she was emaciated, had sciatica and chronic laryngitis. At the time of Dr. Emmons' first visit—December, 1873—in addition to above symptoms, the patient had become so exsanguinous as

almost to be in a state of syncope, from constant flooding—there was pain in the uterus and chest—loss of appetite and sleep. There was abdominal tenderness, particularly over the region of the right ovary. The uterus was enlarged, extending up to within two inches of the umbilicus, and a little higher upon the right than left side. Digital examination, per vaginam, revealed anteversion, the os low down against rectum, and dilated to about one-half inch. A metallic sound could be introduced (with strong curve towards anterior wall of abdomen) to a depth of six and one-half inches; a flexible catheter passed an half inch farther. There was a hard tumor commencing at middle of the neck of the uterus, attached to its anterior wall, and extending to the fundus uteri.

Treatment: directed a tonic of iron and quinine, and

R. Ergotin (Bonjeau), - - - - dr. j.
Aquæ Destil., - - - - f oz. j.
Glycerini, - - - - - f dr. j.

M. Sig. Twelve drops, daily: hypodermically. Improvement was immediate, as shown by the subsidence of pain and hemorrhage. At the end of fifty-nine days, the patient was much better, pulse fuller, appetite better; sleeps well and without anodynes, and able to sit up two hours daily; less abdominal tenderness, but no diminution in size of tumor. The dose of ergotin was increased so as to get about four minims per dose, and continued for three weeks without any particular change in the patient's condition.

The use of Squibb's aqueous solution of ergot, prepared for me so as to get one grain of the drug to the minim, giving twenty minims daily by hypodermic injection over the deltoid, was most satisfactory. Examination twelve days after this change of medicine, revealed the tumor subsided to four and one-half inches below umbilicus. The cavity of uterus measured about five and one-half inches in depth. Patient able to ride out daily; has gained eighteen pounds during the past fortnight, is entirely free from pain; last menstruation normal in quantity, and lasted four days. At another examination in June the fibroid had still farther diminished in size: the uterine cavity measured four inches in depth. Patient complained at this time of a quite free watery discharge from the vagina. A month later, during which time the treatment had been continued, the uterine cavity was found to measure three and one-half inches in depth, watery discharge still present. The

treatment was suspended for ten days and then resumed. In August the uterus had regained its normal size, and no tumor remained. The continued daily hypodermic injection, during a period of 156 days, of the twenty minims of a preparation containing Squibb's aqueous solution of ergot, had the effect of gradually reducing the fibroid till hardly a trace of it could be found. There was no particular inconvenience or irritation produced at the points of puncture, especially after laying aside the use of the alcoholic preparation of ergotin.

Dr. Emmons gave some quotations regarding the action of ergot from the results of an experimental investigation by Dr. Warnich, and from recent works of other authorities, such as Drs. Paul Vogt, Ritchie, Handelin, and C. Boldt. *In true interstitial fibroid of the uterus, treated hypodermically with the aqueous solution of ergot, we may expect in the large majority of cases, eminently more satisfactory results than by any other mode of treatment, or by operation.*

Dr. Davis. Why was the medicine not administered by the stomach?

Dr. Emmons replied, because the effect was more satisfactory when given hypodermically; it enters more rapidly into the circulation, and does not disturb the appetite or digestion. He knew of a physician who had given the ordinary tincture of ergot by injection and thereby quickly produced numerous abscesses.

Dr. Merriman said that in a couple of cases under his care there have a quantity of abscesses followed upon the hypodermic use of a solution of ergotine. Afterwards, he gave Squibb's extract of ergot in solution, by the mouth, but it was not so efficient as when given by injection. He had always made the insertion directly over the region of the uterus. Even in treating cases not of interstitial form of fibroids, when giving ergot by the mouth, great benefit has been apparent; the debility is lessened, the menstruation has become more regular in amount and time, the patient feels better even when there has been no diminution in size of the uterine growth.

The Society next discussed the report of the Committee on the Medical Fee Bill, but owing to the lateness of the hour, adjourned, leaving the question of its adoption to a future meeting.

Chicago Medical Society. *Transactions at the Meeting of Aug.* 17, 1874. Dr. GRAHAM, Reporter *pro tem.*

The President, Dr. Quine, in the Chair.

Dr. Stillians presented a specimen of intestine, showing intussusception of the colon at five different points, three of which were well marked. The patient was a boy five years old. The only symptoms at first were constipation and colicky pains, for which anodynes and cathartic enemata were given. There was afterwards some flatulence, and a tender point was discovered below and to the right of the umbilicus. A very small quantity of feces was passed at two or three different times after giving the injections. During the second day the skin became hot and the pulse rapid and feeble, which symptoms continued and became more prominent, death ensuing that night.

In answer to a question, the Dr. stated that there had not been any vomiting or discharge of blood from the bowels. Dr. Dyas said it was very unusual not to have these symptoms, and that there was generally a tumor on the right side. Death was often caused by the shock to the system, without any symptoms of inflammation being present. Purgatives should not be given in such cases, but enemata of simple water and opiates should be chiefly relied on.

Dr. A. H. Foster read a report of a case of hydrophobia.

On motion, the discussion of this paper was deferred till the next meeting.

Dr. H. M. Lyman read the following report of his observations on three cases of diabetes mellitus, occurring in the County Hospital during his term of service:

Diabetes Mellitus.—Three cases of this disease were under treatment. One died; another left the hospital, after remaining three months under treatment; the third was still in the house at the close of my term of service. He was a man in middle life, whose case presented no unusual symptoms. The boy who left us was of Swedish parentage, æt. 17 years, admitted to the hospital April 18, 1874. Had never noticed any failure of health till about March 1, when he began to experience great thirst, dryness of the skin, frequent and copious urination, dull aching in the legs, progressive weakness, a ravenous appetite, and some indistinctness of vision. On admission, his pulse, temperature and respiration were normal, but the skin was dry and desquamating, and his

tongue was red and dry in the centre. During the first twenty-four hours after admission, the patient voided twelve pints of urine, (sp. gr. 1032), which gave a decidedly saccharine reaction with Fehling's test. He was ordered the most nitrogenous diet which our somewhat limited resources could supply; was douched with cold water every morning, and took once every four hours a scruple of bromide of potassium, with an equal quantity of chlorate of potassium. He had ten grains of Dover's powder every night. April 24, voided seventeen and a half pints of urine.

The quantity gradually diminished till May 3, when it was only nine pints. At this point it remained stationary until May 12, when the treatment was changed, in order to make trial of a recent German theory of the disease, and the patient took nothing but five grains of carbolic acid three times daily. This treatment proved unsuccessful, for the quantity of urine rapidly increased. May 22 it was fourteen pints; June 1, sixteen pints; June 16, eighteen pints. Medicine now seemed to have very little control over the disease; but when the uncommonly hot weather in July began to stimulate the functions, the urinary discharge was rapidly diminished, and when the patient left the hospital, July 18, he voided six pints *per diem*. In every other particular, however, his condition was unchanged.

The diabetic patient who died under treatment was an Irish laborer, æt. 22 years, admitted Feb. 11, 1874. For about six months he had been losing flesh and strength. Had experienced a slight tracheal irritation, but did not actually begin to cough till three weeks before entering the hospital. On admission, he was very much emaciated; his face was flushed; skin harsh and dry; tongue clean; appetite good; bowels costive; urine copious (sp. gr. 1020) and saccharine. A slight cough attracted attention to his lungs: respiration was largely abdominal, and the respiratory sounds were exaggerated.

He was ordered to take cod liver oil, with citrate of iron and quinine. The quantity of urine gradually diminished from fifteen pints *per diem*, till May 5, when it was only eight pints.

He was now ordered to take carbolic acid instead of iron and quinine, but no benefit was derived from the change. As the weather grew warm he voided less water, but the disease progressed, and he died July 14

Autopsy, thirty hours after death. Extreme dryness of all the tissues was remarked. The brain was very anæmic, but otherwise healthy. The condition of the left lung was normal, but the lower lobe of the right lung was tubercular, and contained several suppurating cavities. The liver and spleen were of the usual weight, but were filled with masses of tubercle, which had in several places degenerated into tubercular abscesses. A similar abscess, as large as a pea, was found upon the greater convexity of the left kidney. The other viscera presented no unusual appearance.

Dr. J. S. Knox gave the details of a case of uterine disease, in which there was sloughing of the entire cervix uteri. The patient had been under treatment for twenty-seven years by many different physicians. Had submitted to leeching, scarification, cautery, fomentations, douches, paintings with iodine and chromic acid, and had tried "pessaries enough to support the womb of time through all eternity." She came under the Dr.'s care by applying for readjustment of a Hodge pessary, which she had worn for a long time.

It was removed on account of the inflammation, which it seemed to have produced, and emollient treatment was pursued several weeks, when the sloughing took place. The rapid healing of the stump, and the absence of every sign or symptom which would cause a suspicion of malignant disease, led the Dr. to conclude that the sloughing was the result of diminished vascularity and vitality, due to the many recurring inflammations, and the abundant treatment of previous years.

Dr. W. E. Clark exhibited the sac of an ovarian tumor which weighed fifty pounds. The Dr. had removed the tumor this afternoon. Both ovaries were diseased, and there was also a fibroid tumor of the uterus.

A motion was made and passed, after considerable discussion, to appoint a committee of three to co-operate with similar committees from the Society of Physicians and Surgeons, and the College of Pharmacy, in considering the relations of physicians and pharmacists, and to consider and report any measures thought necessary to check the prescribing of proprietary medicines.

Drs. A. H. Foster, Stillians and C. W. Earle were appointed such committee.

On motion, Society adjourned.

Transactions at Meeting of Sept. 7, 1874. Reported by WILL T. MONTGOMERY, M.D.

Chicago Medical Society met as usual in the parlor of the Gault house, the President, Dr. Quine, in the Chair.

The discussion of Dr. Foster's paper on hydrophobia, read at the last meeting, having been postponed, first occupied the attention of the Society. Dr. Foster, upon further inquiry, had learned that the dog had been acting queerly for several days previous to the time of biting the child. There was nothing peculiar in the appearance of the body after death.

Dr. Earle hoped that the question of virus or non-virus, upon which the profession are divided in opinion, would be considered.

Dr. N. S. Davis had not heard the paper read, and was not prepared to discuss it. He had never seen but one case of hydrophobia, in a practice of nearly forty years, and in that case it was not possible to trace the origin of the disease to any bite. The patient had all of the symptoms and post-mortem appearances of the disease. His impression had been that we may get all the phenomena of the disease without infection from bites.

Dr. Holmes had seen a case about twenty years ago, in the Massachusetts General Hospital. He first saw the patient, a little girl, about twelve hours after she had been bitten by a rabid dog. The wound was thoroughly cauterized at this time, and the patient was taken to her home. In about a week she was brought back to the hospital, with well marked hydrophobia, and soon died. The least draft of air upon the surface, even the breath of the attendant, was sufficient to excite spasm in this case. He believed the poison to be specific, and thought it possible for a patient to be bitten without knowing it.

Dr. T. D. Fitch had never seen a genuine case of hydrophobia, but had recently seen a spurious case in a man who had been bitten by a healthy cat. The patient soon began to improve upon the use of nervous sedatives, but had a relapse from reading the late discussion of the disease in the newspapers.

Dr. E. F. Ingals. It seems from the literature of the subject, that this disease has been known almost since the time of Adam. It seems to have been most frequently met with in temperate climates, and is said never to occur in Egypt, and other portions of Africa; in the hottest portions of South America; in Green-

land, Labrador and Iceland. It rarely occurs in the Southern portion of Turkey, and seems less frequent in the Southern than in the Northern States of this country. The people have the impression that it seldom occurs except in summer, but this view is incorrect. Out of 100 cases of hydrophobia, in which the time of receiving the bite is recorded, we find, spring twenty-five; summer thirty-five; autumn thirteen, and winter twenty-seven. The disease is common to the canine and feline races, and has frequently occurred in horses, cattle and swine, as the result of inoculation. One rather doubtful case is reported as having been produced by the bite of a cock. Hydrophobia never occurs spontaneously in man, in whom it is a rare disease. In France, it is said, one case occurs yearly to every 1,500,000 inhabitants. In dogs, the disease is doubtless spontaneous in some instances, but is generally the result of inoculation. For instance, a ship arrived in the port of Havana, after a long voyage of several months, at the time that hydrophobia was rife in the city. The dogs on board soon took the disease, though they had not been on shore. Prediposing causes to this affection in dogs are said to be putrid aliment, bad and deficient supply of water, and extreme heat and cold. Thousands of dogs have been exposed to the two former causes without taking it, and rarely or never can a case of this disease be traced to such causes, so that it is doubtful whether there is ground for the belief. Extreme heat and cold produce debility, which render the dog more liable to the disease. Out of 133 cases the bite had been given by a dog in one hundred and five; wolf in twenty; cat in five. During the period of incubation, which lasts from ten days to six months, and more, it is stated by good authority, that an eruption appears beneath the tongue, between the third and fifteenth day. In 235 cases observed, with reference to the period of incubation, in forty-eight cases it was from ten to thirty days; in one hundred and fifty-nine cases, thirty to sixty days; in seventy-five cases, sixty to ninety days; in thirty-one cases, three to six months; in thirteen cases, six to nineteen months; in one case, three years and four months; in one case, four years, and in another, five years and six months. Not more than one-third of the persons bitten by rabid animals have hydrophobia. There is not a single authentic case of recovery.

In the treatment of this disease scutellaria lateriflora was much used in the early part of this century. Cauterizing the vesicles found beneath the tongue, alcohol, opium, and introduction of water, have been recommended.

Dr. Powell suggested tracheotomy as a means of prolonging and perhaps saving life, as the direct cause of death is usually spasm of the glottis.

Dr. Ingals had read of cases in which this had been resorted to without success.

Dr. Van Buren had seen a case of snake-bite, in which alcohol seemed to neutralize the poison. The man was drunk when the snake bit him, yet was given large doses of whisky and recovered. He did not know but alcohol in large quantities might neutralize the poison of hydrophobia also.

A paper by Dr. W. T. Montgomery, which had been announced for the evening, was next called for and read. The paper was a collation from a record of 112 cases of typhoid fever. It was moved and carried that the paper be accepted and published with the proceedings of the Society. The discussion of the paper was postponed until the next meeting.

Transactions at Regular Meeting held September 21, 1874.

Chicago Medical Society met in regular session in the parlor of the Gault House. In the absence of the President, Vice-President Paoli was called to the Chair.

The discussion of Dr. Montgomery's paper on Typhoid Fever was first in order of business. Dr. Danforth inquired as to the mortality of the cases under consideration. Dr. Montgomery stated that there were 20 of the 112 cases fatal. Dr. Danforth had recently met a practitioner who had not lost a case in a practice of forty years, and thought he ought to be appointed physician to the hospital. Dr. T. D. Fitch had been in the habit of administering veratrum in mucilaginous drinks, in the early stages of this fever, with good effect. It had not been uncommon with him to find constipation in the beginning of the disease. He had imagined that carbonate of ammonia had a beneficial effect as an antiseptic, and in preventing heart-clot in the late stages of the fever. Dr. Hutchinson thought, as the paper dwelt more particularly upon the use of the thermometer as an auxiliary in the diagnosis

and prognosis of this disease, the discussion should be limited to this. Dr. T. D. Fitch had not had much experience with the thermometer in typhoid, but so far as he had used it, had found it a valuable aid.

Dr. Paoli thought it was remarkable that a physician should never have a death from this disease, but thought the mortality much greater some years than others. One year, while he was in Stockholm, the mortality there was about forty per cent. He considered the thermometer valuable in diagnosis and prognosis, but its use was not new. It had been used in Vienna in this disease as much as fifty years ago.

Dr. T. D. Fitch thought we should not entirely ignore the statement of some physicians that they never lose a case of typhoid. It may be a coincidence. He did not remember when he had lost a case.

Dr. Danforth presented microscopical specimens of two ovarian cysts. The first was from a tumor of long standing, removed about a month ago by Dr. Wm. E. Clark. It was for a long time doubtful as to what it was. He was requested to examine some of the fluid from it, and found Eichwald's gorged granules and crystals of colesterin. He had never found either of these from any except an ovarian cyst, and he had examined the contents of a number of these cysts and never failed in but one instance to find the granules, and in that he was not sure that the fluid came from a cyst. These granules are believed to be degenerated cells. The granules and crystals of colesterin were both clearly shown in this specimen.

The second specimen was of colloid cells form, removed by Dr. John E. Owens about six months ago. The tumor in this case was not of so long standing. These cells are found in the early development of ovarian cysts, and the granules in the later.

Dr. Bridge inquired as to the difference between colloid and cancer cells, and if the former were malignant.

Dr. Danforth. The difference is, the colloid cells are all after the same type; cancer cells may have any form. If a morbid growth presents cells all of a certain type, it is not malignant.

Dr. Steele reported the following case for Dr. Quine, and presented specimen of cyst:

Regina W., aged 27, unmarried, has menstruated regularly since

the sixteenth year of her age. Five years ago her abdomen began to enlarge, and she noticed, also, that pain attended the first two days of the menstrual flow. In August, 1872, after severe muscular exercise, she was seized with pain in the right lumbar region that continued several months, and was accompanied by fever, progressive emaciation, and rapid increase in the size of the abdomen. So burdensome did the enlargement become, that she was incapacitated for work, and was obliged, in May, 1873, to seek relief in the County Hospital. She was extremely emaciated, her skin was sallow, and her features were expressive of anxiety and suffering. From May, 1873, to August of this year, she was tapped six times, the aggregate amount of fluid evacuated being one hundred and sixty pounds. The fluid was of a dark-greenish color at first, very viscid and thick, and contained a copious admixture of pus; but its character improved with each succeeding paracentesis, and the accumulation became more rapid. In two instances the operation was followed by peritonitis. From the first, tonics were employed, and hygienic measures instituted, with a view to improving nutrition; but ovariotomy was then considered impracticable, because of the supposed existence of pulmonary tubercle. The condition of the patient steadily improved, and a pleurisy and pericarditis, under which she had been laboring, got well. A month after the last tapping, the abdomen having again become moderately distended, it was decided, by a consultation between the attending physician and Drs. Byford and Fitch, that an operation was practicable. On the 12th of August, Dr. Quine, assisted by Drs. Fitch and Bogue and the House Staff of the Hospital, performed the operation—making an incision four and a half inches long in the mesian line, and carrying it rapidly through the walls of the abdomen. The trifling hemorrhage from the wound was readily checked. When the peritoneum was cut, the finger of the operator, passed through the wound, failed to discover any adhesions within the circle of its reach. Thirty pounds of fluid were then evacuated by a large trochar, and as the sac was being withdrawn, adhesions to the omentum and right parietes were revealed. Momentary embarrassment was occasioned by a little aggregation of cysts that resembled a kidney very closely in size, shape and color. The omental adhesions, though not very extensive, were exceedingly vascular, and

the parietal adhesions were also vascular and very firm. Some parts of the adhering omentum were tied and cut off, and other parts were gently separated from the cyst walls, and left. Some trouble and delay were occasioned by persistent bleeding from the lacerated parietal adhesions, but sufficient time was taken to check all oozing. The pedicle was ligated by transfixion and double ligature, and cut short. The abdominal cavity was carefully sponged out with tepid salt water, and the wound closed with six silver wire sutures. A compress and bandage completed the dressing. After reaction was fairly established, not a single unfavorable symptom appeared, the wound healing perfectly in six days, and the patient being able to sit up in nine days after the operation.

Dr. Gapen reported the following case also for Dr. Quine, and exhibited tumor:

The doctor saw the lady, a woman of 25 years of age, in a consultation, which was necessitated by malposition of the child in parturition. The labor terminated favorably. Subsequently, owing to the removal of the previous attendant from the city, Dr. Quine was recalled. He then learned that the lady had, for seven years, been suffering from bronchitis and gastro-enteritis, and was reduced to a state of extreme emaciation by these affections. At the first visit the irritability of the stomach was so great that the blandest articles of food were retained with difficulty, and only in very small quantities. Vast quantities of gas were being incessantly eructated and passed from the bowels. The patient was also suffering from a harassing cough, with profuse expectoration, and a very distressing tenesmic diarrhœa.

She improved in condition slowly and unsteadily for several months, and finally, at a time when her health had become better than it had been for years, passed temporarily from the Doctor's care. In November, 1873, she returned in consequence of an exceedingly sensitive tumor that occupied the pelvic cavity, and protruded from the vagina when she assumed a standing posture. She was then seven months pregnant, and complained of a return of the old bronchial and gastro-enteric disorders. A cautious digital examination in his office yielding negative results, the Doctor sent the lady home, promising to call the following evening. He did so, finding her well advanced in labor, the shoulder of the

child presenting. The presentation was made out with great difficulty, owing to the occupation of the pelvis by a sensitive, fluctuating tumor, and consequent displacement of the uterus,—the os pointing to the umbilicus, and being very high. Chloroform was administered, and the child easily delivered by podalic version.

As the child was being withdrawn, the tumor, which had been no impediment to labor, ascended into the abdominal cavity. The patient made a very tardy recovery, owing to the occurrence of pelvic cellulitis; and before she was able to leave the bed, a diagnosis of ovarian tumor was made.

During the succeeding seven months the lady was tapped three times, the second and third tappings yielding respectively less fluid, and correspondingly less relief, than the preceding. At the third tapping, performed in consultation with Dr. T. D Fitch, only about a quart of fluid was withdrawn. The abdomen of the patient had reached an enormous size, and the gastro-enteric disorder, coupled with constant pelvic distress, contributed to render life miserable and threateningly short. Ovariotomy was decided upon by Drs. Bartlett, Bogue, Fitch, and Quine, as the only means that offered the slightest prospect of relief or long continuance of life. Accordingly, and notwithstanding the extreme feebleness and emaciation of the patient, and the existence of grave gastro-enteric disease, the operation was performed by Dr. Quine, assisted by Drs. Bogue, T. D. Fitch, Stillians, and myself. The operation was tedious and very difficult. The abdominal incision extended from an inch and a half above the umbilicus to within an inch of the pubes. The tumor was firmly adherent to all parts of the abdominal walls, and an attempt to pass the grooved director between the cyst and the peritoneum resulted in the rupture of the thin and lacerable walls of the tumor, and the escape of its fluid contents. The omental adhesions were extensive; but there was not adhesion to any other abdominal, nor to any pelvic viscus. The great mass of the tumor consisted of colloid matter, which, in order to remove through the wound in the abdomen, it was necessary to break down into hands-full. The mass being removed, and the pedicle, which was short and only moderately thick, tied by transfixion and double ligature, the abdominal cavity was cleansed, by sponges and salt water, of its colloid and cystic contents. The abdominal wound was closed by six equidistant silver wire sutures. The patient

was then put to bed between woolen blankets; a number of hot bricks were applied, and alcoholic stimulants administered, to promote reaction. The wound was dressed with compress and bandage. Beef tea and brandy were continuously given per rectum, care being taken to avoid provoking movement of the bowels, by injecting slowly and in small quantities. The catheter was used regularly at intervals of six hours. After reaction was well established, the patient commenced to vomit, and vomited almost incessantly for three or four days. Morphine was given hypodermically, in quantities sufficient to allay pain and procure rest; and quinine was administered in the same way to the amount of about fifteen grains daily. Bismuth, in twenty-grain doses, and ice, allayed the irritability of the stomach sufficiently to enable the patient to take considerable quantities of milk. The convalescence of the patient has been much retarded by the old inflammatory disorders, and by an accumulation of putrescent fluid in the peritoneal cavity, which was limited by pelvic and abdominal adhesions. The presence of this fluid in the pelvic cavity gave rise to a general cellulitis, and the sufferings of the patient were further increased by the occurrence of cystitis.

Ten or twelve days after the operation, Dr. Bogue, in consultation with Drs. Fitch and Quine, drew off, through the cul-de-sac of Douglass, by means of the aspirator, nearly three pints of a grumous, fetid fluid, affording prompt and great relief to the pelvic distress. There has been no considerable reaccumulation of fluid, a spontaneous opening into the intestine affording ready drainage of the cavity. The treatment of the case has, in consequence of the complications, been widely different from the plan ordinarily followed, and combined measures directed to the cure of the old intestinal disorder, and the acute inflammation of the bladder. But notwithstanding the almost unprecedented desperateness of the case, and the numerous and alarming drawbacks to convalescence, the patient has been improving steadily but slowly, so that, at the present time, perfect recovery may be confidently predicted. I am requested by Dr. Quine to gratefully acknowledge his indebtedness to Mrs. Prosser, for her faithful and intelligent care of the patient, and to Drs. Bogue and Fitch for frequent and valuable counsels. But to the attentive lady nurse he especially ascribes the successful issue of the case.

Dr. Hutchinson gave a verbal report of two interesting cases of ovariotomy which he had had. He thought his cases were more successful than the others which had been reported, for, besides recovering without a bad symptom, each patient had become pregnant since.

Dr. S. J. Avery reported the following case: Sciatica of several years' standing, cured by replacing a prolapsed uterus. About the middle of August, 1871, he was called to see Miss T. He found the patient, a young woman, 21 years of age, of slight figure, a little below medium height, light complexion and nervous temperament, suffering with pain of right thigh and leg. The following history he learned from the patient: Some three years before, while employed as teacher in an academy in the State of New York, she was attacked with severe pain in the back and hips, extending down the thighs. During the following twelve weeks, she was confined to her room, and a large part of the time to her bed, being unable to move without assistance. She now began to improve in strength and was soon able to take short walks, but was not free from pain or lameness, from the first attack until the present time. During this period she had suffered several attacks similar to the first, lasting two or three weeks, confining her, as at the first, to her room and bed. She had also suffered, from the first, from dysmenorrhœa.

Upon learning her previous history, he informed the mother of the patient, a woman of more than ordinary intelligence, that he suspected uterine difficulty and probably displacement as the cause of her daughter's illness. She replied, that their old family physician, in whose judgment they had implicit confidence, as also, several other medical gentlemen in whose care she had been, had never suggested any difficulty of that nature. It was the desire of herself and daughter that electricity be tried, as that had been highly recommended. According to their wishes he applied the interrupted current—using one of Kidder's batteries—over the course of the sciatic nerve twice a week, for nearly three weeks, the patient taking bark and iron as a tonic. Under this treatment she seemed to improve, and experienced a hope that she was really recovering her health. About this time he was called in haste, the messenger saying, that Miss T. was in spasms. On his arrival he found her suffering from excessive dysmenorrhœa, which was

soon relieved by the use of chloral and bromide of potash. One week after, upon making a digital examination, he found the vulva, beside being somewhat swollen, very tender and sensitive to the touch, the os resting upon the unruptured hymen, which was apparently the only obstacle to complete procidentia. He succeeded with some difficulty, on account of the swollen and tender condition of the parts, in placing the uterus in its normal position, and left the patient with directions to rest in the horizontal position as much as possible, promising to return in three days. On the third day following he found the patient much improved. She stated that she had been free from pain since his last visit. The day before, being Sunday, she had walked to and from church, a distance of nearly half a mile, without any inconvenience, and felt better than she had before since her first attack.

He again replaced the uterus, which had fallen about one-third the length of the vagina, and left, promising to call again in one week. He visited her twice after this, when he found the displacement so slight that further treatment was unnecessary. She took no medicine while receiving local treatment. The patient now returned to her home in the East. Fourteen months after, he received a letter from her, stating that she continued to improve, had gained sixteen pounds in weight, and that she considered her health restored.

The points of interest in this case, are, first, the importance of a correct diagnosis of the causes of backache and sciatica in the female; second, the *probability* of immediate relief in all cases of coincident retroversion by adjusting the womb; third, the possibility of the cure being permanent even without an instrument, care being taken to convert the *retro*version into an *ante*version in order to secure the antagonism of the normal intestinal pressure.

On motion, the discussion of this case was postponed until next meeting.

Dr. T. D. Fitch presented a new pessary which he had had constructed for the treatment of prolapsus, posterior and lateral version of the uterus. The instrument consists of the lever pessary similar to Noeggerath's, with a ring attached to the cervical end in such a manner that when the pessary is in position, the cervix rests evenly upon the ring. The advantages claimed by

the Dr. for his instrument in the treatment of these displacements are, that it maintains the organ in position better, and affords increased surface for pressure, and is much more comfortable to the patient.

Owing to the lateness of the hour, the discussion of this was also postponed until next meeting. A cut and full description of the instrument will also appear in one of the medical journals.

A motion to make the hour of meeting 7½ o'clock, instead of 8, prevailed, and the Society adjourned.

Clinics.

Rush Medical College. Clinic for Diseases of Nervous System, by Dr. WALTER HAY. Reported by HENRY W. HARRINGTON.

Case of Hemicrania.

Mrs. K——, aged forty-five. Housewife. German. Patient is a large, well nourished woman; general health good; appetite good; bowels regular. States that when a little girl, she received a violent blow upon the right temple, and supposes this to have been the cause of her trouble. She recovered entirely from the immediate effects of the injury, but for about thirty years has been subject to periodical attacks of pain in the right temple, recurring at intervals of about a week, sometimes less frequently. These attacks are ushered in by a feeling of chilliness and lassitude; also by excessive yawning; soon the pain begins, mild at first, but growing more and more severe until it amounts to perfect agony. After a time she suffers from nausea, and vomits freely, after which the pain usually begins to subside, and gradually passes away; the attacks lasting from twenty-four to thirty-six hours. The pain is always confined to one side of the head, to the supra orbital and temporal regions. Ordered—R. Sodii bromid. grs. xxx, three times daily, to be continued until bromism is induced, after which, to diminish the amount, taking grs. xxx at bed-time alone, if no more can be borne; also, that her diet be mild and easily digestible, especially at supper.

Remarks. This, gentlemen, is a typical case of hemicrania, or migraine; neuralgia of a portion of the fifth pair of nerves. The blow to which she refers as the cause of the disease, is such, only in a restricted sense. There was present, no doubt, a tendency to disorder of the nervous system; and then the disease was developed at a time in her life when her system was undergoing those developmental changes peculiar to woman; changes which rendered her very susceptible to this disorder. The disease is due

to pathological changes in the cells of the fifth pair of nerves; just what these changes are, or how brought about, is not known. The nausea and vomiting which nearly always occur, have led some to suppose that these constitute the primary disorder, hence the name, "sick headache." They do not, but are the result of thepa in in the head, and are reflex in character. I prescribe the bromide of sodium to allay the nervous excitability and susceptibility to these attacks of pain. I prefer it to the potassium salt, because it is more easily absorbed and assimilated, and more certain in its action.

Two Cases of Organic Infantile Paralysis.

CASE 1. Alice D——, aged seven years. The mother states that the child was apparently healthy when born, and was well until the age of three years, when she had an attack of small-pox; was sick one month; for one year afterwards she was unable to walk, and when she began walking, the mother noticed that she did not walk well; the right leg seemed weak, and the toes dragged. After a time she noticed that the right leg and arm were smaller than the left. Patient sleeps well; appetite good. She is usually good tempered, but often has long spells of crying; she seems to understand what is said to her, but does not remember anything. On examination, find the right arm and leg much atrophied, the extensors more so than the flexors, so that the hand drops, and the toes catch in walking; right leg measures one inch less in circumference than the left. Patient is continually rolling her eyes about, and laughing in an idiotic manner; is constantly in motion, throwing her arms and legs about irregularly; pupils dilated, and only slightly sensitive to light. She was ordered—R. Strychniæ sulph. gr. $\frac{1}{60}$, ferri phosphatis gr. j, acid phosphoric dil. gtts. viij., three times daily.

CASE 2. Amelia W——, aged eight. The mother states that the child was well until she was nineteen months old, at which time she had "brain fever," which was immediately followed by her present trouble. Previous to her sickness she walked without trouble, but afterwards the toes of the left foot dragged in walking, and the left arm also became weak; she could not hold up the hand, nor extend it upon the wrist. She has continued in the same condition ever since. Appetite good; bowels regular; sleeps well. On examination, find left arm and leg much smaller and shorter than the right, corresponding in size to those of a child about two years of age. There is a greater degree of atrophy of the extensors than of the flexors, giving an appearance of contraction of the flexors, so that neither the arm nor the leg can be perfectly extended voluntarily; for the same reason the heel is elevated; left arm and leg very weak. Ordered—R. Strychniæ sulph. gr. $\frac{1}{60}$, ferri pyrophosphatis gr. j, three times daily; also—R. Olei morrhuæ dr. ss, three times daily; good diet and exercise.

Remarks. In these cases you recognize a disease called organic infantile paralysis. It differs materially from the paralysis of adults, in which the essential characteristic is loss of motility without at first atrophy of muscular tissue. In this disorder, there is arrest of development, due to atrophy of those cells in the nerve-centers which preside over nutrition, and the loss of motor power is due to this loss or lack of muscular tissue. In addition to this, we have, in the first case, arrest of development in the hemispheres, indicated by the lack of intelligence.

The indications to be fulfilled in the treatment, are: to increase the nutritive power of nerve-cells, also to increase general nutrition. To accomplish this, we order good diet; tonics, such as iron and strychnia; and those elements which will supply an existing deficiency in nerve-tissue, a deficiency always existing in nervous disease, indicated by the largely increased amount of phosphatic salts in the urine, and showing a waste of nerve-tissue which exceeds repair. Hence, we prescribe phosphorous in some form, on purely physiological principles. We cannot promise a cure, neither will the existing deformity disappear, but further progress of the disease may be arrested.

August 8. Dr. HAY.

Syphilitic Neuralgia.

A woman was presented who complained of pain radiating from the spinal centre round the body along the intercostal nerves. There was spinal tenderness, great sensitiveness to noise and light, pain in the head, and impaired hearing, signs of periostitis of the clavicle and other long bones. Ordered a fly blister, three inches by twelve, to the back, and five-grain doses of the potassium iodide. It is necessary to ascertain the cause of neuralgia; whether it be due to malaria, or nervous exhaustion, or syphilis. The fly-blister, by its reflex action on the vaso-motor nerves, irritates, and produces contraction of the internal blood vessels, lessens the exosmosis and the calibre of the vessels. The heart's action will be increased, and send along the blood faster, whereby absorption into the vessels of effete matter will be increased, and, at the same time, the quick distribution of the iodide she is now taking will be facilitated.

Hospitals.

Cook County Hospital. Surgical Clinic. Dr. FREER. Aug. 4, 1874.

Carcinoma—Orchitis—Phymosis—Amputation of left index finger.

The amputation of the finger was done because of necrosis, the patient having had his fingers severely squeezed. Ether was

given, and Esmarch's bandage applied above the elbow. Two lateral flaps were made, the outer one being the larger flap; the incisions being made an inch above the head of the metacarpal bone, through the dorsum of the hand. To preserve the symmetry of the hand, the head of the metacarpal bone was cut off with the forceps, obliquely from without inwards.

The patient with phymosis had a mixed chancre, a bubo in the right groin, and syphilitic roseola. The under surface of the penis was excoriated, swollen and red. Passing a director beneath the upper surface of the prepuce, it was divided quite down to the corona. Dr. Freer remarked, with much drollery, that this was another case of so-called water-closet disease; the patient said he knew of no other cause for his disease.

Impermeable Stricture—Retention of Urine, relieved by the Aspirator—Perineal Section.

B. L., a man of sixty-four years of age, and of great obesity; had contracted gonorrhœa twenty years ago, from which a stricture resulted. He had no trouble from this till four years ago, when he began to think he had the gravel and cystitis. Before Dr. Freer saw him, an unsuccessful attempt to pass a catheter had caused two false passages in the urethra. The urine came away guttatim; there was retention for seventy-two hours. Fomentations and cathartics were given, and a mixture containing eight drops of laudanum with fifteen drops of tinct. belladonna, every four hours. The bladder was emptied twice by the aspirator, the needle being inserted in the median line, an inch above the pubis. To allay the vesical irritability, there being quite a sharp cystitis, a drachm of spts. mindereris and thirty drops of tinct. hyoscyamus were given every three hours; also injections of bismuth, per rectum. The operation of perineal section was done under ether, the patient being in position as if for lithotomy. The stricture was divided, a catheter tied in, and directions given to have the bladder washed out with lotions of carbolic acid.

August 11. Dr. FREER.

Amputation of the right thigh—Esmarch's Bloodless Method—Amputation at the left shoulder joint.

H. G., forty-two years of age, Irish, while attending to his duties as a switchman, was run over by a train of cars, and suffered a compound comminuted fracture of both bones of the left leg, near the knee, and punctured wound of the lower part of the thigh, the wheels passing obliquely from right to left over the thigh, and stripping off the lower two inches of the periosteum from the femur. The operation was done twenty-one hours after the accident; the patient being under ether thirty-six minutes. Dr. Freer remarked, that for years railroad surgery had become distinct from that of most other injuries, on account of the

and of the general destruction of the vitality of the parts, where, apparently, little harm had been done. In this hospital no limbs had been saved, when amputation had been performed below the point of contact with that which caused the injury. In applying the rubber-band, after Esmarch's method, the limb was first wrapped in oiled silk, to prevent the soiling of the bandage. The amputation was by lateral flaps, and in the middle third of the thigh. While dressing the stump, the attention of the class was called to the superior usefulness of whisky to that of the carbolic acid wash as a lotion for dressing of the stump.

The amputation at the left shoulder joint was rendered necessary by the great laceration of the entire extremity by a railroad accident. The deltoid muscle was, fortunately, well preserved, and made an excellent flap. The muscles on the inner aspect of the limb were contused higher up than those of the outer aspect The head of the bone was first turned out of the glenoid cavity, and a posterior flap made; then entering the soft parts, the operator followed up the course of the axillary artery, and ligated it; the second flap, containing the deltoid muscle, was next made.

Ununited fracture of the left clavicle, of nine weeks' duration, in which the ends overlapped, was treated by the use of Brainard's drill. The boring was done in two places, both pieces of bone being pierced. Fox's apparatus was applied, and was made out of a piece of new muslin, two yards long and one-half yard wide, —a very simple but perfectly effective and inexpensive treatment.

Hæmorrhoids.

This patient tells us that these hæmorrhoids have given him great inconvenience for the past six years. They are now as large as a walnut, are mostly internal, and distinct from the integument. Five large tumors were removed, the patient being under ether, by means of the clamp and the actual cautery, heated to a white heat. The sphincter ani was first dilated, so that the parts to be removed could readily be drawn down and out.

During the month, Dr. Steele has had two labor cases in which the women gave birth to twins. In the first case it was the fourth labor, and lasted seventeen hours. The presentation was vertex in the first position. The children were born two hours apart; there was one placenta for the two females. In the second woman, the labor was normal; one placenta; presentation was vertex and footling; two females; and the second labor.

St. Luke's Hospital. Surgical Service. Dr. OWENS.

A German laborer, twenty-two years of age, had a part of his left foot crushed by railroad accident. The great toe and its metatarsal bone were removed, together with the second toe, and the head of its metatarsal bone. After the wound began to

granulate, thin grafts of skin were placed upon it at five various spots. The reparative process was remarkably hastened near and around these grafts as centres, which speedily spread out and united with the borders of the wound already healed.

Editors' Book Table.

[NOTE. — All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN, COOKE & CO., whose catalogue of Medical Books will be sent to any address upon request.]

A Treatise on Food and Dietetics, Physiologically and Therapeutically Considered. By F. W. PAVY, M.D., F.R.S., Fellow of the Royal College of Physicians, and Lecturer on Physiology at Guy's Hospital. Philadelphia: Henry C. Lea. 1874.

A summary of everything used for human food, from clay to turtle soup, by every nation in every clime. Dr. Pavy has ransacked the literature of gastronomy—not only ransacked but digested the most of it, and given us admirable instructions by means of which our own digestion may be made the more easy.

The author, moreover, has done much more than this, he has given us a history of food, its relations to the organism, its mode of appropriation, its sources of supply, its constituent elements, and an admirable classification of its principles and their chemical and physiological relations.

In addition to the consideration of the subject of food, in the restricted sense of edible matters, a considerable section of the work is devoted to that most essential of all its elements, water, together with those important adjuncts to the dietary of higher civilization, tea, coffee and cocoa, with the not less valuable wines, of all varieties and nationalities, and many analogous beverages.

The sections devoted to the description of food in its climatic and ethnological relations, present much that is interesting and suggestive, as are likewise the dietetic rules for infants and adults, and for hospitals.

The work will amply repay the reader, whether professional or

general, and should find a place in the office of every physician, in the dispensary of every hospital, and would constitute a valuable addition to the household library. H.

A Manual of Toxicology, including the consideration of the nature, properties, effects and means of detection of Poisons, more especially in their Medico-Legal Relations. By JOHN J. REESE, M.D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania; Physician to St. Joseph's Hospital, etc., etc. Philadelphia: J. B. Lippincott & Co. 1874.

While the truth of the author's prefatory remark that "the literature of Toxicology is already voluminous," cannot be denied, his work cannot fail to be very acceptable to a large majority of his compatriots in the profession, for several reasons: first, in that it is a manual, and as such, devoid of much which the practical reader might regard as irrelevant; second, in that it is accessible to every one; and thirdly, that it is American.

Beginning with the best definition of "a poison," the author proceeds to draw a clear line of demarcation between matters essentially poisonous and those incidentally so; regarding which line public sentiment directed by the civil law is by no means well educated, and therefore will receive much enlightenment herein.

It is gratifying to perceive that our author is not a partisan of either the doctrine of absorption or of nervous sympathy as a means of inducing poisonous effects in the organism.

The chapter on compound poisons will be found to possess especial interest, in view of the practical application of which the antagonistic relations of different poisons are susceptible.

The advice to medical experts, and the delineation of the injustice to which they are so often subjected, should be thoroughly studied by every medical man who may be called upon at any time to appear upon the witness stand in this capacity. The impositions to which this class of witnesses is habitually subjected are narrated with the acumen derived from personal experience, and their condemnation must receive the endorsement of all who have similarly suffered.

Full details are given of the most approved methods of chemical analysis for the detection of poisons.

The chapters upon classification are full and explicit, and the exposition of the specific effects of various poisons as complete as the present state of the science permits. H.

A Practical Treatise on the Diseases of Women. By T. GAILLARD THOMAS, M.D., Professor of Obstetrics and Diseases of Women and Children in the College of Physicians and Surgeons, New York; etc., etc. Fourth edition, thoroughly revised. Philadelphia: Henry C. Lea. 1874.

Perhaps the highest praise which can be bestowed on any book is the demand on the part of the reading public for new editions—it certainly demonstrates one fact, that the book is adapted to their wants. This fact has been thoroughly established in the case of the book before us, of which three editions have been exhausted and a fourth issued within five years. Our transatlantic brethren have manifested their high appreciation of the work by translating it into German, as they will shortly do into French and Italian also.

We do not propose here to enter upon the superfluous task of making a detailed analysis of the contents of Dr. Thomas' excellent work. We say superfluous, because those already acquainted with the work could not thereby learn to estimate it more highly, and those to whom it is still unfamiliar can only do it, and themselves, justice, by its speedy possession and careful study. We will venture to say one word only in commendation of the literary merits of the work, of which the style and diction proclaim its author to be not only a skilled gynæcologist but an accomplished scholar. H.

Clinical Lectures on Diseases of the Nervous System. By WILLIAM A. HAMMOND, M.D., Professor of Diseases of the Mind and Nervous System in the University of New York, etc., etc., etc. Reported, edited, and the histories of the cases prepared, with notes, by T. M. B. CROSS, M.D., Assistant to the Chair of Diseases of the Mind and Nervous System in the University of New York. New York: D. Appleton & Co. 1874.

Dr. Hammond's Treatise on Diseases of the Nervous System, has become so universally popular as to be familiar to most of our readers, who will be glad to accept this effort to condense the essential propositions embodied in that work, into the less bulky proportions of this one just issued, by which the author's views are

brought more directly within the reach of a much greater number, who may have been deterred by its greater bulk and cost from the study of the former work. While the volume before us is to some extent a condensed summary of the principles of the larger treatise, it is something more than this, for while many of the subjects of lesser importance are omitted, others of more directly practical value have been elaborated more fully, to adapt them more especially to the necessities of a clinical class.

Of Dr. Hammond's acquirements as a neuropathologist, as a clinical teacher, or as a scholar, it is needless to speak here, but we will take the liberty to felicitate him upon his good fortune and judgment in the selection of his assistant and editor, Dr. T. M. B. Cross, to whom both he and the profession at large are equally indebted for his labors in the collation of the data and the preparation of these lectures. H.

BOOKS RECEIVED.

Erysipelas, and Child Bed Fever. By THOMAS C. MINOR, M.D. Cincinnati: Robert Clarke & Co. 1874.

Infant Diet. By A. JACOBI, M.D., Clinical Professor of Diseases of Children, College of Physicians and Surgeons, New York. Revised and enlarged, and adapted to popular use, by M. P. JACOBI, M.D. Geo. P. Putnam's Sons.

A Practical Treatise on the Diseases of Women. By T. GAILLARD THOMAS, M.D., Professor of Obstetrics and Diseases of Women and Children in the College of Physicians and Surgeons, New York; etc., etc. Fourth Edition, thoroughly revised, with one hundred and ninety-one illustrations on wood. Philadelphia: Henry C. Lea. 1874.

Transactions of the Pathological Society of Philadelphia. Vol. IV. Containing Report of the Proceedings for the years 1871, '72, '73. Edited by JAMES TYSON, M.D., Hospital Lecturer on Pathological Anatomy and Histology in the University of Pennsylvania, etc., Recorder of the Society. Philadelphia: J. B. Lippincott & Co. 1874.

Essentials of the Principles and Practice of Medicine. A Hand-Book for Students and Practitioners. By HENRY HARTSHORNE, A.M., M.D., Professor of Hygiene in the University of Pennsylvania, etc., etc. Fourth Edition, thoroughly revised; with one hundred illustrations. Philadelphia: Henry C. Lea. 1874.

The Nature of Gunshot Wounds of the Abdomen, and their Treatment: based on a review of the Case of the late James Fisk, Jr., in its Medico-Legal Aspects. By EUGENE PEUGNET, M.D., Surgeon to the Northwestern Dispensary; Member of the New York Pathological Society, etc., etc. New York: William Wood & Co. 1874.

PAMPHLETS RECEIVED.

Transactions of the Medical Association of the State of Alabama. Twenty-Seventh Session, 1874.

A Case of Anchylosis of Right Temporo-Maxillary Articulation, Successfully Treated by Excision of the Condyle; with Remarks. By JAMES L. LITTLE, M.D., Surgeon to St. Luke's Hospital, etc., etc. Albany, 1874.

Corpulency, and its New Self-Dietary Cure. Consisting of letters to the Medical Times and Gazette, explaining his newly discovered Diet-System to reduce the weight and benefit the health. By A. W. MOORE, Member of the Royal College of Surgeons and L.S.A. Sixth Edition. Printed for the Author by Spottiswoode & Co., New-Street Square, London.

Injuries of the Skull. By C. C. F. GAY, M.D.

Transactions of the Medical Society of the State of Pennsylvania, at its Twenty-Fifth Annual Session, held at Easton, Pa., May, 1874. Vol. X. Part I. 1874.

The Address in Obstetrics delivered before the Medical Society of the State of Pennsylvania, May, 1874. By WILLIAM B. ATKINSON, Physician to the Department of Obstetrics and Diseases of Women, Howard Hospital, Philadelphia. 1874.

The Ophthalmoscopic Appearances of the Optic Nerve in Cases of Cerebral Tumor. By C. E. Fitzgerald, M.D., C.H.M., Dublin, etc. Dublin: Fannin & Co., 41 Grafton street. London: Longmans & Co. 1874.

Tinnitus Aurium, Noises in the Ears. By LAWRENCE TURNBULL, M.D., Physician to the Department of Diseases of the Eye and Ear, Howard Hospital, Philadelphia. Philadelphia: J. B. Lippincott & Co. 1874.

Deaf Muteism, and the Method of Educating the Deaf and Dumb. By LAWRENCE TURNBULL, M.D.

JOURNALS RECEIVED.

The American Medical Weekly, Sept. 21, 29, Oct. 3, 10, 17.
" Australasian Medical and Surgical Review—July, 1874.
" Archives of Dermatology—Vol. 1, No. 1, October, 1874.
" Atlanta Medical and Surgical Journal—October.
" American Practitioner—October.

Boston Medical and Surgical Journal—October, 1874.
Boston Journal of Chemistry—October.
The Clinic, Cincinnati—September 19, Oct. 3, 10, 17.
" Canada Lancet—October.
" Druggists' Circular—October, 1874.
" Detroit Review of Medicine and Pharmacy—October, 1874.
" Indiana Journal of Medicine—October.
" Kansas City Medical Journal—September and October.
" London Lancet—September, 1874.
" Medical Times, Philadelphia—Sept. 19, Oct, 3, 10, 17.
" Medical and Surgical Reporter—Philadelphia, Sept. 19, Oct. 3, 10, 17.
" Missouri Clinical Record—October.
" Medical Record, New York—October 1.
" Medical News and Library—October, 1874.
" " Supplement, Oct., 1874.
" Medical Herald, Leavenworth, Kansas—October.
" Medical Examiner, Chicago—October 15.
" New York Medical Journal—October, 1874.
" Nashville Journal of Medicine and Surgery—October.
" Practitioner, London—Sept., 1874.
" Pacific Medical and Surgical Journal—Sept., 1874.
" Pharmacist, Chicago—October, 1874.
" Progres Medicale—Nos. 36, 37, 38, 39, 40.
" Richmond and Louisville Medical and Surgical Journal—Sept., 1874.
" St. Louis Medical and Surgical Journal, Oct., 1874.
" Southern Medical Record—September.
" Transactions of the Wisconsin State Medical Society—1874.
" Texas Medical Journal—August, 1874.
" Virginia Medical Monthly—October, 1874.

Editorial.

In the October Number of the JOURNAL we published, under the head of Correspondence, a communication signed "Regular," anent the matter of Ethics, which appears to have called out an answering echo in the mind of at least one of our readers, whose article over the signature of a "Country Physician—Regular" is published herein.

While we shall continue with much pleasure to publish to the world the opinions of our readers so long as they are within the bounds of reason, we must disclaim all responsibility for the same, directly or indirectly. The JOURNAL is simply the medium of communication for its correspondents, but endorses neither their ethics, logic, nor grammar. H.

Sanitary.

The Mortality Report for the month of September, published herein, exhibits a very gratifying aspect of the sanitary condition of the city. The report shows a decrease of 411 deaths in comparison with the mortality of the preceding month; and what is still more satisfactory, a decrease of 199 when compared with the list for the corresponding month of last year; this decrease occurring coincidently with an increase in the mean temperature of 4.3°, and likewise an increase in the population. This decreased mortality has been apparent in people of all ages, but principally in children under five years of age. The approaching cold weather will have the effect to still farther decrease the mortality.

Correspondence.

EDITORS CHICAGO MEDICAL JOURNAL:

Your correspondent who signs himself "A Regular," has struck a chord which shall vibrate through the land. It is the key-note of a coming reform. "You cannot eradicate quackery by such narrow-minded, unlogical restrictions as the code of ethics tries to force upon the regular physicians." So says "A Regular;" so say we; and so will say thousands of regular, true and good medical men all over this broad domain. From hundreds of hamlets, villages and towns, this word will come up to sustain "A Regular" in this his bold and manly assertion.

History tells every school-boy of Braddock's defeat, and how the brave young American soldier pointed out to him the true way of coping with the concealed and treacherous foe. The leaders and teachers of the "ethics" continue to illustrate the stupidity of Braddock, and they and we are constantly suffering the same defeats; worse than this, too, humanity bleeds, suffers and dies, because of this same stupidity. The many victims of disease are all about us; they plead for help; the cool, lying advertisement of the quack and charlatan promises them the wished-for boon. They accept of the proffered aid, take their nostrums and so-called "treatments," and—die, knowing of no "better way." And we, of a noble, humane profession, capable of being very angels of mercy to them, must stand with folded arms, silent and dignified, (?) bound by "the ethics." The dignity of "the profession" *must* be preserved, you know?!

COUNTRY PHYSICIAN—REGULAR.

Obituary.

FREEPORT, Ill., Sept. 28th, 1874.

At a special meeting of the Stephenson County Medical Society, convened at the office of Dr. Buckley, September 28th, 1874, to take action on the death of Dr. S. R. BUCHER, the following resolutions were adopted:

WHEREAS, we have been called to mourn the death of Dr. S. R. BUCHER, of Cedarville, a member of this Society;

Resolved, That in his death this Society has lost a most efficient member, and one intimately identified with its best interests; that the profession at large has lost one of its brightest ornaments, and our community a most useful citizen.

Resolved, That we believe his death was the result of too arduous labors in his chosen calling, and that he has added another to the long list of glorious martyrs who have given up their lives in the cause of suffering humanity.

Resolved, That while his family must most deeply mourn his loss, they have the consolation of knowing that the multitudes of sick and afflicted, whose sufferings his skillful hands have alleviated, and whose drooping hopes his encouraging words have cheered, will not soon, nor willingly let his name be forgotten.

Resolved, That we, as a Society, tender to the bereaved wife and orphaned family our heartfelt sympathy in this their hour of trial, trusting that the "Lord will temper the wind to the shorn lamb."

Resolved, That a copy of these resolutions be tendered to the family, and sent for publication to the journals of the city, and CHICAGO MEDICAL JOURNAL.

A. K. VAN HORN, *Secretary.*

Chicago Mortality Report for September, 1874. Reported by Dr. BEN. C. MILLER, Sanitary Superintendent.

MORTALITY IN MONTH OF SEPTEMBER, 1874.

Abscess	1	Atelectasis pulmonum	1
" lumbar	1	Brain, congestion of	8
" hepatic	1	" hyperæmia of	1
Accident, by burns	1	" hemorrhage of	1
" by explosion	1	" inflammation of	8
" by fracture of skull	1	" softening of	3
" by fall	2	Bronchitis	6
" kicked by horse	1	" capillary	2
" run over by wagon	1	Cancer	1
" by railroad	3	" of abdomen	1
" by street cars	1	" of encephaloid	1
" by shooting	2	" of liver	1
" by suffocation	1	" of stomach	2
" by drowning	7	Carbuncle on neck	1
Apoplexy	6	Childbirth	1
Asthma	1	Cholera infantum	210

Cholera morbus	1
Colitis	1
Consumption	53
Convulsions	85
Croup	3
" membranous	2
Cyanosis	1
Cystitis	1
Debility, general	11
Delirium tremens	2
Diarrhœa	39
" chronic	6
Diphtheria	4
Dropsy, general	5
" abdominal	1
Dysentery	16
Elephantiasis of leg	1
Enteritis	26
Entero-colitis	15
Erysipelas	1
Exhaustion	2
Fever, intermittent	1
" scarlet	16
" typhoid	33
Glands of throat, disease of	1
" enlargement of	1
Gastritis	3
Gastro enteritis	7
Hemorrhage from abscess	1
" internal	1
Hemorrhagica purpura	1
Heart disease	5
" hypertrophy of	1
" organic disease of	1
" ossification of	1
" rheumatism of	1
" neuralgia of	1
" valvular disease of	5
Hepatitis	2
Hip, disease of	1
Hip-joint, disease of	1
Hernia	1
Hydropericarditis	1
Hydrocephalus	9
Inanition	22
Icterus	2
Kidneys, Bright's disease	2
" fatty degeneration of	7
" inflammation of	2
Laryngitis	1
Liver, disease of	1
" cirrhosis of	1
Lungs, congestion of	3
" gangrene of	1
" hemorrhage of	2
" emphysema of	1
" paralysis of	1
Manslaughter	2
Measles	1
Meningitis	12
" cerebro-spinal	6
" tubercular	4
Old age	8
Paralysis	6
Pericarditis	1
Peritonitis	5
" puerperal	3
Pneumonia	11
" typhoid	1
Pyæmia	1
Rheumatism	1
" inflammatory	1
Scrofula	2
Small-Pox	1
Stomach, ulceration of	2
Stomatitis	1
Stricture of urethra	1
Suicide by laudanum	1
" by poison	1
" by shooting	2
Syphilis	1
Tabes mesenterica	21
Teething	8
Tetanus	1
Whooping cough	14
Total	809

Premature births, 14; Still births, 56. Total 70

COMPARISON.

Deaths in month of September, 1874	809
" " August, 1874	1,220
Decrease	411
Deaths in month of September, 1873	1,008
Decrease	199

AGES.

Under one year	327	Four years to five	11
One year to two	84	Five " " ten	29
Two years to three	26	Ten " " twenty	18
Three " " four	14	Twenty " " thirty	46

Thirty years to forty	50	Seventy years to eighty	13
Forty " " fifty	39	Eighty " " ninety	6
Fifty " " sixty	27	Ninety " " one hundred	--
Sixty " " seventy	19	Total	809

Colored	10	Males	445
White	799	Females	364
Total	809	Total	809

Married, 159; Single, 650. Total 809

NATIVITIES, SEPTEMBER, 1874.

Belgium	1	Ireland	49
Bohemia	5	Italy	1
Canada	5	Norway	7
Native—Chicago	119	Poland	3
Foreign, "	422	Scotland	2
United States, other parts	98	Sweden	2
Denmark	3	Switzerland	1
England	17	Wales	1
Germany	63	Unknown	9
Holland	1	Total	809

Deaths daily, 27. Mean temperature, 66.8°. Rain fall, 3.93 inches.

MORTALITY BY WARDS, SEPTEMBER, 1874.

Wards.	No. Deaths.	Pop. in 1872.	Percentage. one death in
1	4	398	----
2	4	2,174	----
3	27	19,157	709
4	23	16,832	732
5	16	18,564	1,160
6	91	31,371	345
7	70	27,644	395
8	72	30,253	431
9	46	30,032	667
10	11	16,624	1,511
11	18	18,340	1,019
12	21	20,876	994
13	28	14,636	523
14	18	15,892	883
15	129	40,047	311
16	59	19,099	323
17	42	17,513	417
18	41	19,977	487
19	7	2,944	----
20	6	5,023	----
	733		

Ratio of deaths to population in 1872, one death in 454⅓.

No. deaths in Wards	733	St. Luke's Hospital	1
Accidents	21	Manslaughter	2
Foundlings' Home	22	Railroad Depot	1
Home for Friendless	1	Old Ladies' Home	1
Hospital Alexian Brothers	3	Suicides	4
Mercy Hospital	6		
County Hospital	13	Total	809
Hospital for Women and Child'n	2		